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THE MAIL

FEMINIST CRUSADERS

Gloria Steinem, profiled by Jane Kramer, deserves recognition for her achievements, but others who have also played critical roles in the struggle for women's rights should not be dismissed ("Road Warrior," October 19th). Kramer mentions one of the "mothers" of second-wave feminism, Simone de Beauvoir, writing that she "lived and travelled with the philandering Jean-Paul Sartre." Leaving aside the fact that Sartre's affairs are irrelevant, he and Beauvoir both had open extracurricular relationships. When Kramer asserts that Beauvoir "was not much given to the cause or company of other women," she overlooks the ways in which she devoted her life to women, through her relationships and her political activism. An example of her solidarity: the "Manifesto of 343," which appeared in the April 5, 1971, edition of *Le Nouvel Observateur*, and was signed by three hundred and forty-three women who admitted that they had had an abortion, thereby exposing themselves to possible criminal prosecution. Beauvoir, who had not had an abortion, not only signed the statement but also wrote the text. The document inspired a February 3, 1973, manifesto drafted by doctors in declaration of their support for abortion rights. In 1975, that statement led to the legalization in France of terminating a pregnancy during the first twelve weeks. The issues that Beauvoir fought for are, lamentably, far from resolved, which makes knowing about her contributions all the more important.

Jean Nathan
New York City

A more critical take on Steinem seems to be in order. Kramer did not scrutinize Steinem's stance on sex work, and the article repeats a statistic that many find suspect about the average age of entry into the sex trade. Kramer should have offered another perspective on the question of "choice" in sex work. She seems to praise the Swedish approach—penalizing patrons and traffickers but not sex workers—without acknowledging the opposition to this legal framework by sex workers them-

selves. The inability of Steinem, and, it would seem, Kramer, to comprehend that a woman might indeed choose sex work as the best among limited options reveals what I find to be a fundamentally anti-feminist bent—that is, women cannot be trusted to decide for themselves. Either women have choice and autonomy over their bodies or they don't. Steinem has many accomplishments as a feminist, but her antiquated judgment of commercial sex is not one of them. It is far past the time that Steinem, and other feminist leaders, let sex workers speak for themselves.

Darby Hickey
Washington, D.C.

READING IN RUSSIA

I was disappointed by how Masha Gessen described the response in Russia to Svetlana Alexievich's receipt of the Nobel Prize in Literature ("The Memory Keeper," October 26th). I got the impression that Russians were bitter and, in some cases, that they despised her for winning. Gessen alludes to an article in the online Russian publication Colta, stating that "the crux of the piece was that Russians should care about the writer because foreigners do." But that article highlights Alexievich's treatment of the "little people," those who suffer; it also mentions that Alexievich brings the humanity into her work in a way that Russians have been waiting for. Alexievich comes from a Soviet generation that was taught to sacrifice everything for the greater good. She is cognizant of the fact that the past twenty-four years of change in the former Soviet Union have not yet been enough to bring people to value each other. American readers should know that many Russians appreciate Alexievich's work.

Alexandra Pugachevsky
Arlington, Va.

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GOINGS ON ABOUT TOWN

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THE THEME OF "PERFORMA 15," the performance-art festival sprawling through New York City this month, is the Renaissance, and Juliana Huxtable is a Renaissance woman for the Internet age—she's been known to describe herself as a cyborg. Born in Bible-belt Texas, the trans twenty-seven-year-old attended Bard College and worked as a legal assistant at the A.C.L.U. while honing her skills as a d.j. (Björk just tapped her for a remix), an emphatic poet (who favors all caps), and a model and muse (she's walked the runway for DKNY). At MOMA on Nov. 13 and 14, Huxtable performs a new three-part ode to post-identity politics, "There Are Certain Facts That Cannot Be Disputed," linking such divergent subjects as South African shamans, the abolitionists Frederick Douglass and Sojourner Truth, and cached Google searches.

DANCE | CLASSICAL MUSIC
NIGHT LIFE | THE THEATRE
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FOOD & DRINK

PHOTOGRAPH BY SHAE DETAR

DANCE



Trisha Brown Dance Company performs "Newark (Niweweorce)," at BAM, ending a three-year tour.

WINTER PREVIEW

JUST BEFORE TRISHA BROWN RETIRED, in 2013, the **Trisha Brown Dance Company** embarked on a three-year retrospective tour entitled "Proscenium Works." The final stop will be at BAM, Jan. 28-30. On the program are two of Brown's most memorable dances from the eighties, "Set and Reset" and "Newark (Niweweorce)." Together, they offer a distillation of Brown's inimitable style: free and relaxed, while at the same time highly rigorous and deceptively complex. The list of collaborators conjures a bygone era of New York art-world cool: music by Laurie Anderson and Peter Zummo; designs by Donald Judd and Robert Rauschenberg. Next year, the company will transition to a leaner, more flexible model. See them in full force while you still can.

Robert Battle spent his first four years at the helm of **Alvin Ailey American Dance Theatre** (at City Center, Dec. 2-Jan. 3) throwing open the doors to an array of new choreographers. Now he's ready to make something of his own. "Awakening" (opening Dec. 4), his first new work for the company since taking the reins, signals a fresh start, he says, "like a baptism, in a strange and abstract way." In the piece, Battle imagines a priestly figure leading his flock from chaos to harmony. ("I was thinking about Ailey and his spirit, and his ability to move people.") The score, by John Mackey, is blaring and dramatic. It turns out that the soft-spoken Battle isn't afraid of making a big noise.

Justin Peck, the young resident choreographer at **New York City Ballet** (at the Koch, Jan. 19-Feb. 28), has been churning out ballets at an almost alarming pace, but until now he's never turned his talents to storytelling. For his first story ballet, a somewhat neglected genre these days, Peck chose a lesser-known fairy tale by Hans Christian Andersen, "The Most Incredible Thing" (opening Feb. 2), in which a young man invents a magical clock, out of which, every hour, characters from other stories emerge: Adam and Eve, the Muses, Moses. It is Peck's biggest work to date, with fifty dancers, including eleven kids from the company school.

—Marina Harss

Abraham.In.Motion

After successfully experimenting with live jazz (an update of Max Roach's "We Insist! Freedom Now Suite") for last year's "The Gettin'," the MacArthur-award-winning choreographer Kyle Abraham doubles down with his first all-live-music program. In addition to reprising "The Gettin'," he replaces the Bill Evans recording that originally accompanied his subtle 2011 work "The Quiet Dance" with a sensitive, in-person rendition by the jazz pianist Kris Bowers. For the new piece "Absent Matter," a meditation on death and the Black Lives Matter movement, Bowers and the drummer Otis Brown III play along with samples of political hip-hop, by Kendrick Lamar, among others. (Joyce Theatre, 175 Eighth Ave., at 19th St. 212-242-0800. Nov. 10-15.)

Ronald K. Brown / Evidence

Brown's soulful choreography and unaffected dancers deserve a place on New York's best stages, but this two-week run at BRIC, where the company has been in residence for two years, serves as a reminder that the troupe is also a community organization, rooted in Brooklyn. Neither of the two programs offers a premiere, though in the second the company newly adopts "Por Que Sigues," a piece that Brown made for the Cuban group Malpaso. In the first, "Two-Year-Old Gentlemen," a 2008 work for several men and one boy, with live drumming by Mamadouba Mohamed Camara, anchors a choice selection of repertory excerpts. (647 Fulton St., Brooklyn. 718-683-5600. Nov. 12-14. Through Nov. 22.)

Sylvie Guillem / "Life in Progress"

As delicate as a line drawing and as strong as steel, the French dancer Sylvie Guillem became the model of the twentieth-century ballerina. Even now, as she prepares to retire, at fifty, her technique is more impressive than that of many dancers half her age. Guillem was one of the first to indulge in the now common twelve-o'clock leg hoist, ushering in an age of almost freakish flexibility. Since 2004, her interest has turned to contemporary dance, and that is what she will perform in a farewell program. The evening includes works by Akram Khan, Russell Maliphant, Mats Ek, and William Forsythe (the latter will be performed by two guests). Ek's "Bye," made in 2009, is the most personal; it ends with the poignant image of Guillem disappearing into a crowd. (City Center, 131 W. 55th St. 212-581-1212. Nov. 12-14.)

Shuji Onodera

The dance-theatre works of this Japanese director-choreographer draw from mime and slapstick to push everyday scenarios into a surreal, often melancholy absurdism. "Spectator" was inspired by students at a school for the deaf, two of whom join the small cast. With some chairs, a table, and a video camera, Onodera's performers make the ordinary strange. (Japan Society, 333 E. 47th St. 212-832-1155. Nov. 13-14.)

Heidi Latsky Dance and AXIS Dance Company

In celebration of the twenty-fifth anniversary of the Americans with Disabilities Act, two dance troupes that employ dancers with disabilities share an evening and a goal: to broaden notions of beauty. Latsky's company presents "Somewhere," a stylish yet hectic piece that aims to demonstrate that cast members with Parkinson's disease and cerebral palsy can do as much as anyone else. AXIS, from Oakland, offers Joe Goode's "to go again," in which four performers, one of them in a wheelchair, poignantly dance out the recovery stories and battle memories of military veterans, often while speaking the words of vets. (N.Y.U. Skirball Center, 566 LaGuardia Pl. 212-998-4941. Nov. 15.)

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CLASSICAL MUSIC



Kristine Opolais takes the title role in the Met's new production of Puccini's "Manon Lescaut."

WINTER PREVIEW

WHEN FABIO LUISI was named the Metropolitan Opera's principal conductor, in 2011—after James Levine's medical via dolorosa reached its apex—it seemed that the house would be his for taking. But Levine has since rebounded, and most of the heir-apparent chatter has settled on the Philadelphia Orchestra's Yannick Nézet-Séguin. So why keep Luisi around? First-class conducting is an excellent reason: he'll display his considerable skills in Richard Eyre's new production of Puccini's smoldering **"Manon Lescaut"** (beginning Feb. 12), featuring the soprano Kristine Opolais, a Met star in the making, and the magnetic tenor Jonas Kaufmann in the leading roles. (He'll also conduct a run of "Cavalleria Rusticana" and "Pagliacci," Jan. 21-Feb. 26.) The Met's New Year's Eve gala features another new staging, co-produced with English National Opera: **"The Pearl Fishers,"** Bizet's lyrically refulgent Orientalist fantasy, with Diana Damrau, Matthew Polenzani, and Mariusz Kwiecien heading the cast, and with another formidable Italian maestro, Gianandrea Noseda, in the pit.

Two other organizations carry the torch for vocal music in unconventional ways: the stalwart New York Festival of Song's **"NYFOS Next,"** a series of new-music concerts (held at the National Opera Center), will spotlight the work of two prominent American opera composers, the young radical **David T. Little** (Feb. 4) and the elegant conservative **Lowell Liebermann** (Feb. 18), in addition to an evening devoted to composers associated with the Manhattan School of Music (Feb. 11). Little is also prominent at the Williamsburg venue National Sawdust, where he curates a multimedia reinvention of Schubert's "Winterreise" (with the baritone David Adam Moore, Dec. 16), one of three concerts featured in a mini-festival centered on the eternally compelling song cycle. Of course, no one needs to tell Alan Gilbert's **New York Philharmonic** about the importance of contemporary composition: he'll cede the podium to the young American conductor James Gaffigan, who will lead the orchestra and the distinguished pianist Jeffrey Kahane in the world première of "Split" (Dec. 10-12), a piano concerto by the fabulously talented **Andrew Norman**.

—Russell Platt

OPERA

Metropolitan Opera

The company is rotating multiple casts through its recently established Luc Bondy production of Puccini's **"Tosca"**; unlike the old Zeffirelli production, the staging is hardly beloved, but it has proven its sturdiness with successive revivals. The first performance this week, conducted by Joseph Colaneri, features Maria Guleghina, Marcello Giordani, and James Morris as the doomed Roman trio; Plácido Domingo, recovering from surgery, takes the podium for the next performance, in which the young Ukrainian soprano Oksana Dyka replaces Guleghina. (Nov. 11 at 7:30 and Nov. 14 at 12:30.) • The deathless and extravagant Zeffirelli production of **"Turandot"** takes one more bow at the house before returning in January. Jennifer Wilson sings the formidable title role, joined onstage by Hibla Gerzmava (Liù), Yusif Eyvazov (Calàf), and Hao Jiang Tian (Timur); Paolo Carignani conducts. (Nov. 12 at 7:30.) • Michael Mayer's staging of **"Rigoletto,"** set in a nineteen-sixties Las Vegas casino, turns Verdi's drama about badly behaved courtiers into a carnival of American excess. This week, the Polish tenor Piotr Beczala brings his thrilling vocalism to the role of the Duke, with a cast that also features Olga Peretyatko (whose Gilda is a warm, sweet presence) and the reliable Željko Lučić (as Rigoletto); Pablo Heras-Casado. (Nov. 13 and Nov. 16 at 7:30.) • The long-awaited new production of Berg's **"Lulu"** is by the essential South African artist and director William Kentridge, who made his Met début in 2010 with Shostakovich's madcap farce "The Nose." Marlis Petersen—in what will be her last production of the opera—takes the extraordinarily demanding title role, heading a cast that also features Susan Graham, Daniel Brenna, and Johan Reuter; Lothar Koenigs. (Nov. 14 at 7:30 and Nov. 17 at 7.) (Metropolitan Opera House. 212-362-6000.)

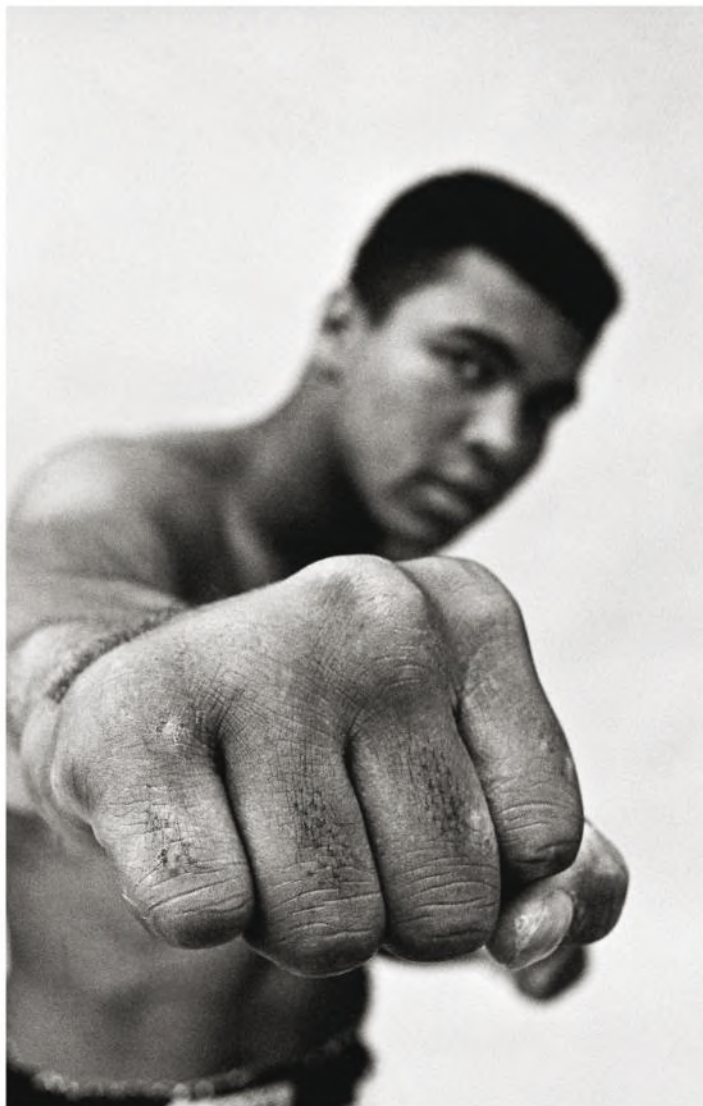
BAM: "You Us We All"

Shara Worden, known from the alt-pop band My Brightest Diamond and from her long-standing work with the composer Sarah Kirkland Snider, collaborates with the director-writer-designer Andrew Ondrejcek for this pop opera in the form of a Baroque masque, fusing a delightfully garish sense of whimsy with ornate ritual and influences from the digital age (pop presences like Beyoncé, Britney, and the Olsen twins are invoked). Worden herself performs, along with the vocalists Helga Davis, Martin Gerke, Bernhard Landauer, and Carlos Soto, taking, respectively, the immortal roles of Hope, Virtue, Love, Death, and Time. Pieter Theuns leads the Belgian ensemble Baroque Orchestration X (B.O.X.) from the theorbo. (BAM Harvey Theatre, 651 Fulton St., Brooklyn. bam.org. Nov. 11-14 at 7:30.)

ORCHESTRAS AND CHORUSES

New York Philharmonic

"Rachmaninoff: A Philharmonic Festival" is a three-week series devoted to the music of Russia's last great Romantic composer (who died an American citizen), an effort that would be inconceivable without a superlative exponent of the composer's instrument on hand—in this case, Daniil Trifonov, unquestionably the finest young pianist to come out of Russia in recent years. All of the programs feature guest conductors; the first is led—five times—by Cristian Măcelaru, the conductor-in-residence of the Philadelphia Orchestra, who paces Trifonov and the ensemble in Rachmaninoff's tone poem "The Isle of the Dead," as well as the Rhapsody on a Theme of



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Paganini and the Piano Concerto No. 2 in C Minor. (Nov. 11-12 and Nov. 17 at 7:30 and Nov. 13-14 at 8.) (David Geffen Hall.) • Even the Philharmonic is making the move to Brooklyn, offering the first of three smaller-scale concerts at National Sawdust, the hot new venue in the heart of Williamsburg—the ideal location to present the second entry in this season's "Contact!" series. This chamber-music event, entitled "Young Americans," hovers around "Flashbacks," a piece by the octogenarian Argentine-American modernist Mario Davidovsky (the teacher of two of the selected composers); it also features works by Kate Soper ("Into That World Inverted," a musical nod to Elizabeth Bishop), Adam Schoenberg, Nathan Heidelberg, and Caroline Mallonée, all performed by members of the orchestra. (80 N. 6th St., Brooklyn. Nov. 16 at 7:30.) (nyphil.org.)

RECITALS

Carnegie Hall Recitals

The parade of superstar pianists continues at Carnegie Hall. Nov. 11 at 8: Jean-Yves Thibaudet, a cynosure of Gallic elegance, offers a recital of works by two giants of the keyboard,

Schumann ("Kinderszenen" and the Piano Sonata No. 1 in F-Sharp Minor) and Ravel ("Pavane pour un Infante Défunte" and "Miroirs"). (Stern Auditorium.) • Nov. 13 at 7:30: Yefim Bronfman, always a formidable presence, offers an all-Prokofiev program, but with a twist—the composer's Piano Sonatas Nos. 1-4, which, compared with the later "War Sonatas," are rarely played. (Zankel Hall.) • Nov. 16 at 8: The Norwegian pianist Leif Ove Andsnes, a master of Apollonian restraint and impeccable technique, begins a recital concerned with bedrock repertory by Beethoven, Debussy ("La Soirée dans Grenade" and three études), and Chopin (including the Ballade No. 4 in F Minor) with a selection of seldom-heard miniatures by Sibelius. (Stern Auditorium.) (212-247-7800.)

Isabel Leonard and Sharon Isbin

The much lauded mezzo-soprano and the classical guitarist traverse the Spanish musical landscape in a program that moves from the melodic directness of folk-song arrangements by the poet Federico García Lorca to the moody, dynamic art songs of Falla and Montsalvatge

(including his surpassingly lovely lullaby "Canción de Cuna para Dormir a un Negro"). The concert also features Tárrega's "Recuerdos de la Alhambra," a classic of the Spanish guitar repertoire, and a world-première work by Richard Danielpour. (Zankel Hall. 212-247-7800. Nov. 12 at 7:30.)

Chamber Music Society of Lincoln Center

Nov. 12 at 7:30: It is hardly a surprise that the extraordinary Danish String Quartet has made a specialty of the quartets of music's great Dane, Carl Nielsen, but it's welcome all the same. The group plays all four in a single concert at Lincoln Center's Rose Studio. • Nov. 15 at 5: The Society, as is its wont, veers back to a populist direction in its concerts at Alice Tully Hall. This program, titled "The Golden Age of the Violin," certainly promises excellence, with three of the instrument's finest young exponents—Benjamin Beilman, Sean Lee, and Danbi Um—joining two leading veterans, the violist Paul Neubauer and the cellist David Finckel, in works for strings—on the deliciously sentimental side—by Leclair, Dvořák, Borodin (the Quartet No. 2 in D Major), and the great

virtuosos Ysaÿe and Kreisler (the lusciously triste Quartet in A Minor). (212-875-5788.)

Chiara String Quartet and Simone Dinnerstein

The outstanding young quartet, which is enjoying a higher profile of late, continues its residency at the Metropolitan Museum, where it is joined by the queen of Brooklyn pianists in two piano quintets—one by Brahms, the other, entitled "The Heart Wakes Into," by Jefferson Friedman (in its New York première). (Fifth Ave. at 82nd St. 212-570-3949. Nov. 13 at 7.)

New York Polyphony: "Songs of Hope"

The male vocal quartet, who live up to their name as gifted musical representatives of their home city, like to break out of the ancient-music confines that their label implies. Accordingly, they sing works by Andrew Smith and the early-twentieth-century Estonian master Cyrillus Kreek, as well as pieces by the Renaissance composers Francisco de Peñalosa and Loyset Compère ("Officium Crucis"). (Church of St. Mary the Virgin, 145 W. 46th St. millertheatre.com. Nov. 14 at 8.)



NIGHT LIFE

ROCK AND POP

Musicians and night-club proprietors lead complicated lives; it's advisable to check in advance to confirm engagements.

BOOTS

Before the twenty-eight-year-old singer-producer Jordan Asher had a public profile of his own, he made both clear-cut and nebulous contributions to Beyoncé's self-titled 2013 Columbia release. Soon after, he began teasing out his own mechanized pop-rock under the name BOOTS. Asher exemplifies the argument that the music industry has shifted from an economy of new albums to an economy of new artists. A hotly touted signee may bring just as much clout—if not as much cash—to a label as a surprise release from a beloved legacy act. Indie artists and major contracted counterpoints that were once at odds now might enjoy an arrangement that works out for everyone, ticket-holders included. BOOTS' "Aguaria" débuts on

Columbia Records Nov. 13, and he'll celebrate with a New York concert that evening. (Rough Trade, 64 N. 9th St., Brooklyn. roughtradenyc.com. Nov. 13.)

Dilly Dally

This Toronto alt-rock quartet's noisy, bleeding-heart anthems, collected last month on a début long-player called "Sore," are feverish, blotchy, and often messy—the songs sound like Hole, or the best of the Pixies. The group's obvious ace is a brash young vocalist named Katie Monks, who rasps about the carnal realities of love and female sexuality. This is very human music, but it's certainly not for all humans; earplugs are recommended. (Baby's All Right, 146 Broadway, Brooklyn. 718-599-5800. Nov. 14.)

Gesaffelstein

The creative agency MATTE will overtake the trendiest warehouse this side of Hudson River Bay for

a multimedia installation comprising music, design, and art. The ad house specializes in event production, set design, and fashion film, and blowout events like these are an excuse to show off creative chops and celebrate works for labels like Maison Kitsuné and Rag & Bone. MATTE has tapped the French d.j. and producer Gesaffelstein to headline the evening of hard-edged dance and chest-rattling selections across genres, as the artists **Cara Stricker** and **Zach Walker** display original audio-visual works. (Brooklyn Hangar, 140 53rd St., Brooklyn. 718-492-7400. Nov. 14.)

Jeazy

These days, the thirty-eight-year-old rapper usually omits the "Young" that preceded his name on his independent releases throughout the early aughts and on his first major-label album, "Let's Get It: Thug Motivation 101." Jeazy's getting older, and leading up to his eighth studio album, "Church in These Streets," he's fashioning himself as a wise corner preacher. When Jeazy returns to the Highline Ballroom on the eve of the tenth anniversary of his début, he'll greet fans as a trap-music pioneer. (431 W. 16th St. 212-414-5994. Nov. 12.)

Lee Ranaldo

During Sonic Youth's thirty-year run, the co-founder and lead guitarist Ranaldo was generally considered

"the shy one." But, while he wasn't as prolific a songwriter as his bandmates, he composed and sang some of the group's rawest and most memorable music. ("Eric's Trip" and "Wish Fulfillment" come to mind.) In 2010, he began performing his material on the acoustic guitar, and the form proved fruitful, leading to a 2012 album and a backing band called the Dust. This week, he performs unplugged, at this outer-borough incubator, along with the Louisville transplant **John Bohannon**, a local bartender who writes narcotic, New Age-inflected drone music under the moniker Ancient Ocean. (Trans-Pecos, 915 Wyckoff Ave., Queens. thetranspecos.com. Nov. 13.)

Shamir

"Ever since I was eight I was attached to the mic, wanted a guitar before I wanted a bike," the twenty-one-year-old Shamir Bailey raps of the music dreams he had growing up in Las Vegas. A spritely vocalist with a septum piercing and a tangle of dreads that he swoops into something too big to call a bun, Bailey identifies as "genderless," and is the latest in a string of young artists melding rap's quick-tongued confrontation with the saccharine escapism of pop. He's having tons of fun on singles like "On the Regular," with an androgynous voice that bounces



MEMORIES SET TO MUSIC

125 Years of Carnegie Hall

Carnegie Hall is celebrating its 125th anniversary. To mark this memorable milestone, friends, fans, and supporters shared their favorite memories of the concert hall, collected at carnegiehall.org/stories. Here are a few carefully orchestrated favorites.



I was nine when I attended my first Carnegie Hall concert—an all-Tchaikovsky program with the New York Philharmonic, Dimitri Mitropoulos conducting. It was April 1953. I remember being confused. “Metropolis?” I thought, “Why was the conductor named after the city where Superman lived?”

BERNARD KAPLAN:
Superman at Carnegie Hall



When Frank Sinatra’s Carnegie Hall show was announced in December 1986, I snapped up two tickets and took my mom. We had an early dinner at Patsy’s restaurant and were worried about the time. “Do you see that man?” our waiter said. “That’s Cab Calloway. He’s performing with Mr. Sinatra tonight. So when you see me bring his check I’ll bring yours at the same time. Enjoy your dinner.”

MICHAEL NAGLE:
Don’t Be Late



My wife and I are both longtime supporters of Carnegie Hall. One evening that stands out was a New Year’s Eve concert, a black-tie event with the tables set right up on stage. At the stroke of midnight Isaac Stern walked out and played “Auld Lang Syne” while the rest of us joined him in song.

JERRY AND LINDA LEVIN:
A Special New Year’s Eve

Tell your Carnegie Hall story at carnegiehall.org/stories.

CARNEGIE HALL



off the beat with ease. He will host two nights at Bowery Ballroom, with the opener **HANA**. (6 Delancey St. 212-260-4700. Nov. 16-17.)

Yairms

This little-heralded Durham, North Carolina, band plays surreal mid-fi pop that you'd be lucky to stumble on in a dive bar. Songs from the group's EP "Part One," self-released this October, gallop with dirty drums and basement-mic'd guitars, fronted by a warbling, eccentric voice that recalls Freddie Mercury plowing through bridges and hooks. Listen for the rumbling treat "Real Time" when Yairms plays this fringe clubhouse that brings some of the best rock to Ridge-wood. (Trans-Pecos, 915 Wyckoff Ave., Queens. thetranspecos.com. Nov. 15.)

JAZZ AND STANDARDS

Children of the Light Trio

As the rhythm section of the Wayne Shorter Quartet, the pianist **Danilo Pérez**, the bassist **John Patitucci**, and the drummer **Brian Blade** have already displayed the kind of telepathic communication and musical brinkmanship that can occur when a band exists for more than a decade. On their own, the trio demonstrates a similarly exploratory bent, albeit one sweetened by a heightened attention to melodic considerations, as well as by the absence of the acidic lyricism of the fabled Shorter. (Jazz Standard, 116 E. 27th St. 212-576-2232. Nov. 10-15.)

Steve Coleman

For the past thirty years, the saxophonist and self-styled visionary Coleman has thrived as a sort of musical guru for ambitious jazz players peering beyond the parameters of the genre. Fronting three different bands—including his flagship Five Elements unit—in the course of his featured week, Coleman will offer up options that skew formal conventions while keeping funk and fury firmly in the mix. (Village Vanguard, 178 Seventh Ave. S., at 11th St. 212-255-4037. Nov. 11-15.)

Mostly Other People Do the Killing

There have been shakeups in this New York City quartet—the trumpeter Peter Evans has been replaced by the pianist Ron Stabinsky—but the inimitable spirit of a band that treats the jazz tradition with both rambunctious glee and wide-eyed esteem (as heard on "Blue," the group's note-for-note rendition of "Kind of Blue") lives on. The newly released album "Mauch Chunk" revives one of the most sorely missed aspects of twentieth-century jazz: the under-fifty-minute recording. (Cornelia Street Café, 29 Cornelia St. 212-989-9319. Nov. 11.)

Pangea Jazz Fest 2015

If not the most inclusive of world-jazz festivals, this all-day marathon (ten bands in twelve hours) will have its share of fascinating idiom-blending ensembles, including **Michele Rosewoman's New Yor-Uba**, the **New York Gypsy All-Stars** with **Michal Urbaniak**, **Oran Etkin's Kelenia**, and **Slavic Soul Party!** (Drom, 85 Avenue A. 212-777-1157. Nov. 15.)

Poncho Sanchez and His Latin Jazz Band

Sanchez, carrying on the tradition of his mentor and fellow master *conguero*, Mongo Santamaria, helms a tight outfit that exuberantly blends Latin, jazz, and R. & B., all in the name of a danceable groove. Slick as the surface sometimes gets, the excitement that Sanchez can generate with the mere snap of a drumhead is undeniable. (Birdland, 315 W. 44th St. 212-581-3080. Nov. 10-14.)



Three innovative voices, spanning three decades, headline nights of thoughtful R. & B.

WINTER PREVIEW

ON HER NEW EP, "HALLUCINOGEN," the Los Angeles singer-songwriter **Kelela** draws from a dozen styles of honeyed R. & B. and avant-garde club music. Consider the Miami-bass bounce of "Rewind" alongside the quiet-storm-style lightning of "A Message"—both allow her robust, wide-ranging voice to twist and whimper and, in the best moments, take flight. Collaborators on the project include the electronic shamans Arca, Kingdom, and Obey City; imagine Aaliyah produced by the Orb. (Or, then again, don't, because sounds this modern shun context.) As Kelela's early demos floated in industry circles, she became a reluctant poster girl for a new wave of savvy, fringe R. & B. But the genre's best have always been brainy. Kelela descends on the Music Hall of Williamsburg on Dec. 2.

When Jimmy Jam and Terry Lewis soldered the copper funk of **Janet Jackson's** third album, "Control," it shook all the pop music that surrounded it. The record, from 1986, was such a dramatic pivot in Jackson's career that many people misremember it as her first. Jackson paired up again with the production duo of Jam and Lewis this year, for her seventh No. 1 album, "Unbreakable," which sounds freshly inspired by the borderless experiments of her pop progeny. "Dammn Baby" connects on dance floors with ease, flaunting unhinged vocal samples and a winking callback to Jackson's 1997 hit "I Get Lonely." Catch her "Unbreakable" tour at Barclay's Center on Feb. 23.

Two decades into her career, the iconic vocalist **Erykah Badu** seems to have found the platforms best suited for her particular strain of eccentricity. This year, she's busked in Times Square for shaky YouTube cameras, nurtured a robust Twitter feed, and uploaded a playful Drake cover straight to SoundCloud. Badu is planning a new mixtape, and has announced a sixty-minute, one-woman show at Dallas's Black Academy of Arts and Letters. Despite these promising new mediums, fans will still flock to watch Badu bring her old tricks to Kings Theatre on Dec. 2.

—Matthew Trammell

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THE VILLAGE VOICE

SHOWTIME

THE THEATRE



In the musical “She Loves Me,” two shop employees are unaware that they are also romantic pen pals.

WINTER PREVIEW

THE HUNGARIAN-BORN PLAYWRIGHT MIKLÓS LÁSZLÓ spawned a subgenre of romantic comedy with his 1937 play, “Parfumerie,” in which a pair of gift-shop employees discover that their epistolary sweethearts are, in fact, each other. The play inspired the films “The Shop Around the Corner,” “In the Good Old Summertime,” and, in the AOL era, “You’ve Got Mail,” as well as a charmer of a musical, **“She Loves Me,”** by Jerry Bock, Sheldon Harnick, and Joe Masteroff, which premièred in 1963. The Roundabout’s revival (at Studio 54, starting previews Feb. 19) stars the effervescent and wry Laura Benanti in the role originated by Barbara Cook; the cast also includes Zachary Levi, Jane Krakowski, and Gavin Creel. Another crowd-pleaser, Michael Frayn’s metatheatrical farce, **“Noises Off”** (American Airlines Theatre, Dec. 17), boasts an ace ensemble, including Andrea Martin, Tracee Chimo, Megan Hilty, and Jeremy Shamos. Doors will slam; sardines will fly.

The rush of Tony contenders picks up in February, offering more meat and less whipped cream. In David Harrower’s Olivier Award-winning drama, **“Blackbird”** (Belasco, Feb. 5), Jeff Daniels and Michelle Williams play two people who confront each other fifteen years after their relationship—which took place when he was forty and she was twelve—has ended. Lupita Nyong’o reprises her role in the Broadway transfer of **“Eclipsed”** (Golden, Feb. 23), Danai Gurira’s portrait of captive women in war-torn Liberia. And Ben Whishaw plays John Proctor in Ivo van Hove’s revival of **“The Crucible”** (Walter Kerr, Feb. 29), Arthur Miller’s McCarthy-minded retelling of the Salem witch trials. Fingers will point; hysteria will brew.

For the uncategorizable, try the **Under the Radar Festival** (Jan. 6-17), the Public Theatre’s annual showcase of the avant-garde. Among this year’s offerings are the Inuit throat singer Tanya Tagaq’s sonic response to the 1922 film “Nanook of the North” and the French-language piece “Germinal,” in which four performers create all of human civilization from nothing. With that large an undertaking, anything could happen.

—Michael Schulman

OPENINGS AND PREVIEWS

The Color Purple

Jennifer Hudson, Cynthia Erivo, and Danielle Brooks star in a revival of the 2005 musical, based on Alice Walker’s Pulitzer Prize-winning novel and directed by John Doyle. In previews. (Jacobs, 242 W. 45th St. 212-239-6200.)

Gigantic

Vineyard Theatre presents a new musical by Matthew roi Berger, Randy Blair, and Tim Drucker, about a boy who goes to weight-loss camp in Pennsylvania. In previews. (Acorn, 410 W. 42nd St. 212-239-6200.)

Henry IV

St. Ann’s Warehouse opens its new home with Phyllida Lloyd’s production, which originated at the Donmar Warehouse and features an all-female cast. Opens Nov. 11. (45 Water St., Brooklyn. 718-254-8779.)

Incident at Vichy

Signature Theatre revives the 1964 play by Arthur Miller, about a group of men taken prisoner in France during the Second World War. Michael Wilson directs. In previews. Opens Nov. 15. (Pershing Square Signature Center, 480 W. 42nd St. 212-244-7529.)

Misery

Bruce Willis and Laurie Metcalf star in a play by William Goldman, based on the Stephen King novel and Goldman’s screenplay for the 1990 film, about a novelist with an obsessive fan. Will Frears directs. In previews. Opens Nov. 15. (Broadhurst, 235 W. 44th St. 212-239-6200.)

Savannah Bay

At the Next Wave Festival, Paris’s Théâtre de l’Atelier stages the two-woman drama by Marguerite Duras. In French, with English supertitles. Nov. 11-14. (BAM Fisher, 321 Ashland Pl., Brooklyn. 718-636-4100.)

School of Rock

Alex Brightman plays a rocker who poses as a substitute teacher, in this new musical based on the 2003 movie, with music by Andrew Lloyd Webber, lyrics by Glenn Slater, and a book by Julian Fellowes. In previews. (Winter Garden, Broadway at 50th St. 212-239-6200.)

A View from the Bridge

Ivo van Hove’s Olivier Award-winning production of the Arthur Miller drama, set on the Brooklyn waterfront, transfers from its run at London’s Young Vic. In previews. Opens Nov. 12. (Lyceum, 149 W. 45th St. 212-239-6200.)

NOW PLAYING

Dear Elizabeth

“Love Letters” for poets. In 1947, Elizabeth Bishop and Robert Lowell began a correspondence that lasted thirty years. The playwright Sarah Ruhl has culled and arranged their letters in what is essentially a staged reading, directed by Kate Whoriskey and presented by Women’s Project Theatre. There are some minimal timeline interjections from a stage-manager-type figure, but all the words are Bishop’s and Lowell’s. The letters span decades and continents, and touch on love, literary criticism, alcoholism, friendship, and regret. The arc of the relationship is well delineated, but the evening will have more resonance for audiences already familiar with the work and lives of the poets. The first week of this limited run featured

Kathleen Chalfant and Harris Yulin, both fine, and future casts will include Cherry Jones, Peter Scolari, Ellen McLaughlin, Rinde Eckert, and others. (McGinn/Cazale, 2162 Broadway, at 76th St. 866-811-4111.)

Hasan Minhaj: Homecoming King

In a one-man show that he developed from a Moth story, Minhaj, a charismatic and well-coiffed correspondent for “The Daily Show,” delivers a loosely connected string of standup-style stories about coming of age as a first-generation Indian-American, leaning heavily on the humiliations of high school. With a stage persona that matches a cocky attitude on loan from hip-hop with the wacky energy of a Super Ball, Minhaj tends to bury his material under a barrage of pop-culture references—half panderingly nostalgic, half perishably current—that render long stretches of script incomprehensible to anyone outside his demographic. (He’s thirty.) He’s got more than enough dynamism to keep an audience’s attention, but his best, and funniest, moments come when he slows down long enough to undercut an easy epiphany with an absurd or unsentimental twist. (Cherry Lane, 38 Commerce St. 866-811-4111. Through Nov. 15.)

Hir

Kristine Nielsen stars in a new comedy by Taylor Mac. (Reviewed in this issue.) (Peter Jay Sharp, 416 W. 42nd St. 212-279-4200.)

On Your Feet!

Most jukebox musicals would be better off abandoning the pretense of plot and embracing their true identities as celebratory cover-band concerts. This spangly sojourn through the life of the Cuban-American superstar Gloria Estefan would certainly benefit from such an adjustment. Its slight script charts the challenges of making Latino music in the seventies and eighties (Estefan’s Miami Sound Machine was deemed too Latin for mainstream American markets, too Anglo for the Spanish-speaking crowd); the band’s eventual surmounting of such barriers; and the travails of touring, including the singer’s near-fatal injury in a 1990 bus accident. But the reason to be here is the score: energizing renditions of hits like “Conga” and “Get on Your Feet,” accompanied by athletic dance routines performed by Estefan’s alter-ego, Ana Villafañe, and a stellar backup ensemble. As Estefan herself once put it, “Words get in the way.” (Marquis, Broadway at 46th St. 877-250-2929.)

Songbird

A “Seagull” with a honky-tonk twist, this new musical transports Anton Chekhov’s tragic comedy of tortured artists to a dingy Nashville night spot. The celebrated actress Arkadina is now the country crooner Tammy Trip (Kate Baldwin), who arrives back home with her hotshot producer, Beck (Eric William Morris), troubling the burgeoning romance between her songwriter son, Dean (Adam Cochran), and his sweetheart, Mia (Ephie Aardema). The relocation works surprisingly well, but, under JV Mercanti’s direction, the meshing of Michael Kimmel’s agile book and Lauren Pritchard’s terrific songs has gone a little awry. The pacing is stop-and-start, with too many musical numbers halting the action. There’s one significant divergence from Chekhov, a hopeful one: the characters of “The Seagull” are skeptical of the power and purity of art, whereas those in “Songbird” find passion and infectious joy in music-making. (59E59, at 59 E. 59th St. 212-279-4200.)

ART



“At the Carpet Shop” (1979), from Peter Fischli and David Weiss’s “Sausage Series,” at the Guggenheim.

WINTER PREVIEW

CONCEPTUALISM TAKES A COMIC TURN at the Guggenheim with “**Peter Fischli David Weiss: How to Work Better**,” a career survey of the two Swiss artists, who met in Zurich in 1977 and collaborated until Weiss’s death, in 2012. Their first project was a series of irreverent photographs, featuring gherkins and sausages as dramatic personae; their most famous is the live-action film “The Way Things Go,” a spectacular chain reaction of unspectacular objects. For more than three decades, Fischli and Weiss uncovered hilarity, and pathos and mystery, in the workaday world. Don’t miss “Suddenly This Overview,” an installation of scores of small, unfired-clay sculptures whose subjects range from the Biblical to the cultural to the banal: the parting of the Red Sea, Mick Jagger and Brian Jones feeling satisfied after writing “(I Can’t Get No) Satisfaction,” a wedge of cheese. (Opens Feb. 5.)

A more caustic conceptualism—a cabinet covered in eggshells, a fictional museum packed into crates—arrives at MOMA with the first New York retrospective of **Marcel Broodthaers**. (The name may not ring a bell, but his influence on other artists approaches that of Duchamp.) In 1964, Broodthaers was a struggling poet—albeit a poet who was friends with Magritte—until he decided to make a sculpture out of his unsold books. In 1977, a year after he died, on his fifty-second birthday, he was so acclaimed for his trenchant oeuvre that the esteemed New York art dealer Marian Goodman opened her first gallery with a posthumous show of his work. (Opens Feb. 14.)

Before Edward Munch’s “The Scream” spawned “Home Alone” memes, the Norwegian painter was inspiring his German and Austrian peers. The Neue Galerie considers the impact in “**Munch and Expressionism**.” (Opens Feb. 18.) **Laura Poitras** transforms the raw material from her Pulitzer Prize-winning reporting on N.S.A. surveillance into an immersive installation at the Whitney. (Opens Feb. 5.) The Cooper-Hewitt’s fifth **Design Triennial** opts for the classic theme “beauty,” but expect some unorthodoxy (animal headpieces, a fragrance based on Central Park) from the sixty-two chosen designers. (Opens Feb. 12.)

—Andrea K. Scott

MUSEUMS AND LIBRARIES

Museum of Modern Art

"Joaquín Torres-García: The Arcadian Modern"

This is the first U.S. retrospective in four decades for the Uruguayan painter who shuttled back and forth across the Atlantic. In 1891, at the age of seventeen, he moved to Barcelona and fell in with the artists of *noucentisme*, a classicizing movement that was opposed to Gaudi-style flourishes. After the First World War, he embraced abstraction, though warily: a noteworthy 1919 collage incorporates train tickets, a censor's stamp, and painted lines that recall telephone cables. But a year later he was grinding out realist scenes of dreary New York. (Torres-García supported himself in part by making toys; the show includes some sweet examples, including a train set emblazoned with letters of the alphabet.) Finally, in 1929, in Paris, he hit his stride, in black-and-white grids filled with anchors, compasses, hearts, and fish. Even more than the abstractions of his final years, these rebus-like compositions stand as the principal legacy of an artist who defied boundaries. Through Feb. 15.

The Whitney Museum

"Frank Stella: A Retrospective"

The crowded installation tracks the New York painter's fifty-seven-year career. At the start is the deathly glamour of Stella's Black Paintings—bands in matte enamel, separated by fuzzy pinstripes of nearly bare canvas—which shocked with their dour simplicity when they were first shown at MOMA, in 1959. Begun when the artist was a senior at Princeton, they amounted to tombstones for Abstract Expressionism and heralds of minimalism. The show ends with one crazy-looking mode after another, mostly in the form of wall-hung constructions, created since the early nineteen-seventies. In between are too few of the swaggering compositions (target-like concentric stripes, designs based on compasses and protractors, shaped canvases) that made Stella a god of the sixties art world. His impact on abstract art was something like Dylan's on music and Warhol's on more or less everything. Stella made a permanent difference in art history. He is extraordinarily intelligent and extravagantly skilled. But his example is cautionary. Even groundbreaking ideas have life spans, and Stella's belief in inherent values of abstract art has long since ceased to be shared by younger artists. His ambition rolls on, unalloyed with self-questioning or humor. Through Feb. 7.

GALLERIES—CHELSEA

Jesse Burke

The freckle-faced girl seen sprawled in the grass cuddling with a baby raccoon is the photographer's daughter, Clover; for the past five years, Burke, who is based in Rhode Island, has been taking his child on road trips to acquaint her with the natural world. Pictures of Clover outdoors—perched on a big driftwood log at the seashore, crouched on the top of a mountain—are juxtaposed with domestic images of her tucked into bed. Photographs of a bloody nose and a little arm in a bright-pink cast underscore the absence of sentimentality, as well as a genuine tenderness. Through Nov. 14. (ClampArt, 531 W. 25th St. 646-230-0020.)

Svenja Deininger

Fields of hushed color—beige and turquoise, soft gray and straw yellow—are divided by moseying lines of black or gold in the Austrian artist's beguiling abstract paintings. Their architectonic form and lack of evident brushstrokes may suggest careful planning, but Deininger builds them intuitively, as intimidated by a field of blue almost covering a

background that was once the color of putty. One could quibble with scale, though; the weakest works seem large just for the sake of it. Through Nov. 14. (Boesky, 509 W. 24th St. 212-680-9889.)

GALLERIES—DOWNTOWN

Brigid Berlin

After making an indelible first impression as the baby-faced motormouth in Andy Warhol's film "Chelsea Girls," the former débutante went on to become one of the Pop artist's closest confidants. Some of the Polaroids here, displayed in albums, document Berlin's Factory years with a voracity that rivals her mentor's, capturing such art stars as Robert Rauschenberg, Gerhard Richter, and Larry Rivers. But the real subject of the show is Berlin herself, peering into the camera as if it were a nosy, but not entirely unwelcome, neighbor. Best are the double exposures, including a mashup of Warhol and one of his flower paintings and Berlin's ghostly head staring out from the shelves of an open refrigerator. Through Nov. 15. (Invisible Exports, 89 Eldridge St. 212-226-5447.)

David Gilbert

In one large photograph here, a swag of curtain, painted on a panel of flowery fabric, hangs next to a piece of chiffon that floats above a slapdash cardboard model, whose windows are lit from within. The interplay of materials in Gilbert's photographs suggests a grownup game of make-believe, and the artist subverts his work's formal sophistication with childlike cutouts of butterflies and stars and plenty of unruly debris. In their interplay of décor and deconstruction, the pictures echo staged photographs

by predecessors from John Divola to Saul Fletcher, but Gilbert's tattered theatrics have an irresistible nuttiness that is theirs alone. Through Dec. 6. (Von Nichtssagend, 54 Ludlow St. 212-777-7756.)

Brice Marden

The minimalist painter's notebooks from 1964 to 1973 are treasure troves of sketches, clippings, calculations, and lists. Marden covered pages of inexpensive sketchbooks with drawings so crosshatched that they became blackouts, but he also used the books for reflections, as in a tally of (what one assumes are) things that he loved: "Goya. The word 'real.' The word 'form.' Grey. Texture. My wife." In a notebook from July, 1973, Marden taped a newspaper photograph of the poet Louise Glück, looking young and stern, quoted as saying, "Sometimes the thing that is necessary to say is very calm and plain"—not unlike the painter's best work. Through Nov. 15. (Karma, 39 Great Jones St. 917-675-7508.)

"Designing Affordability"

This timely, if technocratic, exhibition considers possible housing solutions for cities where the rent is too damn high, from minuscule apartments (in Seoul) to shrewd use of public land (a library in Brooklyn that will incorporate affordable housing). At times, it confuses advocacy with ad-hoc solutions, such as the cinder-block constructions of Rio de Janeiro's Rocinha shantytown, whose residents renovate with a blind eye to zoning. It is sobering to think that a favela might offer a model for New York, but, given the city's galloping wealth inequality, it might also prove to be prescient. Through Jan. 16. (Center for Architecture, 536 LaGuardia Pl. 212-683-0023.)



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Edward Lamson Henry (1841–1919)
The Home of Dudley Sanford Gregory (detail)

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X MOVIES



"Concussion" stars Will Smith, as the doctor who diagnosed brain damage in pro-football players.

WINTER PREVIEW

CONFLICTS AND COMEDIES OF BUSINESS come to the fore in the season's movies, starting with **"The Big Short"** (Dec. 11), the director Adam McKay's dramatization of Michael Lewis's nonfiction account of the investors and hedge-fund managers who bet against the housing market before the mortgage crisis of 2008; Brad Pitt and Christian Bale star. In **"Concussion"** (Dec. 25), Will Smith plays Bennet Omalu, the doctor whose research on brain damage among pro-football players was repudiated by National Football League officials. Peter Landesman directs; Alec Baldwin, Gugu Mbatha-Raw, and Albert Brooks co-star. Jennifer Lawrence teams up, once again, with the director David O. Russell in **"Joy"** (Dec. 25), the true story of a suburban stay-at-home mother who invented and marketed an innovative mop. Bradley Cooper and Robert De Niro co-star.

Historical visions are mainstays of end-of-year prestige releases, but **"Don Verdean"** (Dec. 11) promises to be a comical entry in the genre. Directed by Jared Hess (*"Napoleon Dynamite"*) and featuring Jemaine Clement (*"Gentlemen Broncos"*), it's the story of an archeologist whose church sends him to Israel in search of relics. Amy Ryan and Sam Rockwell co-star. The Hungarian László Nemes directed **"Son of Saul"** (Dec. 18), about a Jewish prisoner in Auschwitz who takes part in an uprising. Quentin Tarantino's Western **"The Hateful Eight"** (Dec. 25) involves a stagecoach journey in which a bounty hunter (Kurt Russell) tries to deliver an accused murderer (Jennifer Jason Leigh) to the authorities. Co-starring Channing Tatum, Samuel L. Jackson, Bruce Dern, and Tim Roth.

Modern politics and love take a classical turn in Spike Lee's drama **"Chi-Raq"** (Dec. 4), an adaptation of *"Lysistrata,"* set in Chicago and focussing on gun violence. Nick Cannon and Teyonah Parris star; Wesley Snipes, Angela Bassett, and Samuel L. Jackson co-star. In Charlie Kaufman and Duke Johnson's **"Anomalisa"** (Dec. 30), a romantic drama made with stop-motion animation, a business writer (voiced by David Thewlis) has an affair with a reader (Jennifer Jason Leigh).

—Richard Brody

NOW PLAYING

Bridge of Spies

The new Steven Spielberg film starts in 1957, with the arrest of a Soviet spy named Rudolf Abel (Mark Rylance) in Brooklyn. The man assigned to defend him is James B. Donovan (Tom Hanks), a local insurance lawyer—trusted, experienced, and thought unlikely to cause a stir. Yet Donovan turns out to be a stubborn soul, who fights against the death penalty for his client and takes his argument all the way to the Supreme Court. Although such perseverance wins him few friends, endangers his family, and dismays his wife (Amy Ryan), it pays off when an American pilot is downed in Soviet airspace. Donovan is asked to travel to Berlin to get the pilot back, in exchange for Abel. As you would expect from Spielberg, the tale is securely told, with tautness and skill; what lifts it above some of his other historical dramas is a touch of comic friction—courtesy of a smart script written by Joel and Ethan Coen, in league with Matt Charman. Hanks, as limber as ever, is required to square off against the restrained Rylance, who makes Abel a witty and formidable foe. Somehow, his kinship with Donovan offers a brief glow of warmth amid the snows of the Cold War.—*Anthony Lane* (Reviewed in our issue of 10/26/15.) (In wide release.)

Brooklyn

Eilis (Saoirse Ronan) lives in a small Irish town with her mother (Jane Brennan) and sister (Fiona Glascott). The time is the nineteen-fifties, and Eilis is leaving for America—not in any spirit of rebellion, since she is a mild and uncomplaining soul, but because the Church has organized the move. John Crowley's movie follows her across the sea and into a brave new world, yet her life in Brooklyn is as plain and regular as the one she knew at home. She works in a department store, lives in a respectable boarding house (the motherly landlady is played by Julie Walters), and falls for a local Italian plumber (Emory Cohen). Circumstances send her back to Ireland, and there she meets another young man (Domhnall Gleeson), who courts her with no less politeness than was shown by his counterpart in New York. But which should she choose? And why does that choice not feel like more of a wrench? Nick Hornby's screenplay is poised and acute, but, in adapting Colm Tóibín's novel, he is stuck with a dangerously undramatic tale, and Crowley's direction is sedate to a fault. While the leads, especially Cohen, acquit themselves with grace, the smaller performances stay with you—Eva Birthistle, as a brassy shipmate, and Jessica Paré, as Eilis's elegant boss.—*A.L.* (In limited release.)

Entertainment

The director Rick Alverson gives the age-old trope of the unfunny comedian an extreme new twist in this puckishly aggressive drama. Gregg Turkington, who performs under the name Neil Hamburger, plays a comedian who himself adopts the persona of an awkward, hangdog standup artist, with an intentionally repellent greasy comb-over, whose wheezy riddles are embarrassing and offensive. Booked in depressing venues, performing for crowds that number in the high single digits, the comedian responds to hecklers with ugly sexual invective that makes Don Rickles seem like Mister Rogers. Dreary adventures in sad motels and dank public restrooms clash with the bedraggled purity of the comedian's oblivious strivings and thwarted dreams. Alverson films a lonely tour in the California desert with poised wide-screen images that lend his grubby wanderings the mythic grandeur of a classic Western. The film is both jagged

and suave, like an orchestrated concept album by a garage band. The cast—including John C. Reilly, as the performer's prosperous cousin (who advises him to cut the references to semen), Michael Cera, Dean Stockwell, Amy Seimetz, and Dustin Guy Defa—completes Alverson's full-circle union of underground exotica and Hollywood legend.—*Richard Brody* (In limited release.)

In Jackson Heights

Either residents of this Queens neighborhood really do spend most of their time in group meetings or the director Frederick Wiseman's new documentary pays exceptional attention to the occasions on which they do. In any case, Wiseman's very subject is the difference between neighborhood and community—between the happenstance of urban geography and the commitment of self-identification. His trenchant images meticulously parse discussions among residents of many backgrounds and speakers of many languages—for the most part, members of distinctive groups meeting among themselves. Living side by side, the communities of Jackson Heights appear to connect only by chance. Wiseman's emphasis is on gay residents, whose mutual support is energized by the memory of the murder there of Julio Rivera in 1990 by a gay-basher, and on Hispanic residents, including local merchants facing displacement due to gentrification and others who struggle against the threat of deportation. The heart of the film is an organized discussion on the experience of immigration; one woman's grandly intricate description of her daughter's harrowing journey through the desert to cross the border displays a passionate commitment to something larger than Jackson Heights—to American life itself.—*R.B.* (In limited release.)

James White

This pain-filled, heartfelt drama, about a young man who is thrown for a loop by his mother's illness and his father's death, plays more like a visualized script treatment than a fleshed-out movie. Christopher Abbott stars, in the title role, as an Upper West Sider who has been living with his mother, Gail (Cynthia Nixon), and helping her through her cancer treatments, when his estranged father dies suddenly. Gail magnanimously mourns her ex, but James is—and already was—a wreck. He's partying hard and not working, and he heads to Mexico, with his friend Nick (Scott Mescudi), for a vacation from nothing. There, he gets involved with a New York high-school girl, Jayne (Makenzie Leigh), and when he returns home to resume caring for his mother he and Jayne continue the relationship, even as he squanders his opportunities. The writer and director, Josh Mond, places dramatic weight on Gail's health, giving Nixon a chance to shine in a role of great suffering, but his images, with their stolidly lurid realism, are not much more than downbeat mood music. As scripted, James has so few distinguishing traits that this potential bourgeois Everyman comes off as nobody in particular.—*R.B.* (In limited release.)

Johnny Guitar

Joan Crawford and Sterling Hayden give two of the strongest performances ever filmed, as ex-lovers reunited after a five-year gap, in Nicholas Ray's shudderingly vulnerable 1954 Western. Hayden plays the title role of a musician and feared gunslinger who strolls his talents into a saloon owned by Vienna (Crawford), a self-made businesswoman whose dusty strip of land is soon to become a major railroad hub. But a ruthless local baron, Emma Small (Mercedes McCambridge), covets the land—and also covets the Dancing Kid (John

Ireland), a gunman who loves Vienna and is raring to blast Johnny away. The towering Hayden, with his laconically insinuating, behind-the-beat baritone and despair-filled eyes, has the coolest delivery in classic Hollywood, and it clashes gloriously with the overwhelming heat of Crawford's ferocious stillness and blowtorch stare. The acidulous palette of the costumes and the décor conjure Ray's insolent, isolated fury; though the action is set in the nineteenth century, the actors break out of the story to foreshadow the stylishly electric revolutions to come.—*R.B.* (Film Forum; Nov. 13-19.)

Our Brand Is Crisis

Sandra Bullock's spirited performance, as Jane Bodine, an American political consultant recruited to help an out-of-touch patrician run for President of Bolivia, can't do much to rescue the heavy-handed satire and its blandly predictable sensibility. In this fictionalized adaptation of Rachel Boynton's 2005 documentary of the same title, Jane, who had been burned by some bad electoral defeats, overcomes her initial misgivings and flings herself into the race with febrile energy. She's endearingly overwhelmed by the thin atmosphere in the high altitude of La Paz and stymied by the language barrier, but her competitive spirit is sparked by the arrival of her onetime lover and longtime nemesis, Pat Candy (Billy Bob Thornton), in an opposing candidate's corner. The director, David Gordon Green, has little feel for the movie's comic turns, and his way with the drama is held back by his obvious and conventional sympathies. The political background on which the story runs is sketched thinly; curiosity about Bolivian life is shunted off to a few lines of dialogue and an abundance of folkloric costumes. With Ann Dowd and Zoe Kazan, as Jane's colleagues, and Joaquim de Almeida, as her candidate.—*R.B.* (In wide release.)

Spotlight

There are many ways in which the new Tom McCarthy film could have gone wrong. The subject could hardly be thornier: the uncovering, by an investigative team at the *Boston Globe*, of widespread sexual abuse by Catholic priests. The victims were children, but we meet them as adults, when they tell their stories. The movie, scripted by McCarthy and Josh Singer, resists any temptation to reconstruct the original crimes, and the sole focus is on the progress of the journalistic task. The result is restrained but never dull, and, barring a couple of overheated moments, when a character shouts in closeup, we don't feel harried or hectorated. The film becomes a study in togetherness, both bad and fruitful; on one hand, we get the creepy sense of a community closing ranks, while on the other there is the old-school pleasure of watching an ensemble in full spate. The reporters are played by Michael Keaton, Brian d'Arcy James, Mark Ruffalo, and Rachel McAdams; their superiors, by John Slattery and Liev Schreiber; and the lawyers, by Billy Crudup and Stanley Tucci, who, as usual, calmly pockets every scene in which he appears.—*A.L.* (11/9/15) (In limited release.)

Suffragette

This historical drama, set in London in 1912, is centered on Maud Watts (Carey Mulligan), a twenty-four-year-old laundress who seems never to have given a thought to her voting rights until she gets caught in a protest. Befriended by an activist colleague and motivated by rage at sexual abuse in the workplace, Maud becomes increasingly involved in the suffrage movement. After her arrest and imprisonment, her husband



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(Ben Whishaw) pries their child (Adam Michael Dodd) away from her, and Maud becomes ever more militant. The movie's sharp focus on the connection of women's subjugation at work and at home to their lack of a vote—on the injustice of laws that women can't vote to change—is unfortunately not matched by the drama. Maud—like her colleagues, her opponents, and even the movement's charismatic leader, Emmeline Pankhurst (Meryl Streep)—remains a cipher. The script, by Abi Morgan, filters out the contextual complexities of politics, and Sarah Gavron's direction reduces difficult situations to simple sentiments. With Helena Bonham Carter, as a principled pharmacist, and Brendan Gleeson, as a wily police inspector.—*R.B.* (In limited release.)

Trumbo

Jay Roach's film is an act of homage to Dalton Trumbo's enviable fluency as a screenwriter, and to his courage in clinging to his principles. Trumbo (Bryan Cranston) was a Communist, and

was prepared to admit as much to his daughter Nikola (finely played, as a young girl, by Madison Wolfe and, later, by Elle Fanning), though not when compelled to do so, in public, by the House Un-American Activities Committee. For his recalcitrance, he was blacklisted, left without decent work, and jailed. The movie tracks him over many years, during which he is supported by a loving wife (Diane Lane) and pestered by Hedda Hopper (Helen Mirren), who comes across as malice in a hat. The hero's staying power is both his greatest virtue and the film's impediment; very little seems to change, aside from his temper and his growing intake of alcohol. Meanwhile, much fun is had in minor parts. Michael Stuhlbarg plays Edward G. Robinson; Dean O'Gorman is a decent Kirk Douglas; Christian Berkel makes it bitingly clear why no one could say no to Otto Preminger; and, if David James Elliott aims at John Wayne (an impossible task) and misses, there is always John Goodman, as a bullish producer.—*A.L.* (11/9/15) (In limited release.)

ABOVE & BEYOND

K-Pop Bash

This August, the Korean pop starlet HyunA released the video for "Because I'm the Best (Roll Deep)," a blitzing stream of neon lights and taut flesh that shocked fans who were accustomed to more innocent displays from K-pop stars. Three weeks later, if only to prove that she could go even harder, the singer leaked an unedited version, featuring a few more abdominal acrobatics and crotch shots. This wasn't the first time that HyunA's bold raunch blasted K-pop conservatism, but the release felt significant for its Western choreography and palette—in one frame, HyunA sports a singlet emblazoned with American dollars, fanning herself with a stack of bills. The clip is a testament to the shrinking distance between K-pop and the American art that it mirrors with fun-house whimsy—the genre has enjoyed rabid stateside audience in recent years. The Queens studio I Love Dance is billing its K-Pop Bash as "the first K-pop club party in N.Y.C.," though it'll offer more than a dance floor. There will be games, talent contests, choreography lessons, costumes, giveaways, and more, at the historic venue known for giving global sounds a local home. (S.O.B.'s, 204 Varick St. 212-243-4940. Nov. 16.)

AUCTIONS AND ANTIQUES

This week brings Round Two of the autumn mega-auctions of Impressionist and contemporary art. After opening with two days devoted to contemporary pieces (Nov. 10-11), **Christie's** moves on to the all-important Impressionist evening sale (Nov. 12), led by works by Cézanne, Monet, and Chagall. The Cézanne, a still-life of six plump apples sitting on a pillowy white tablecloth ("Pommes sur un Linge") is sufficiently beautiful to have inspired a crime. (In 1978, it was one of three paintings spirited out of the Art Institute of Chicago—where it had

hung for three decades—by a former employee. It was later recovered and sold.) A sale on the next day (Nov. 13) includes a pencil drawing by a twenty-eight-year-old van Gogh, a lovingly rendered portrait of the elderly Adrianus Jacobus Zuyderland, a penniless ward of the state who would become one of the painter's favorite models. (20 Rockefeller Plaza, at 49th St. 212-636-2000.) • The focus this week at **Sotheby's** is on contemporary art, beginning with an evening sale (Nov. 11) containing fifty-seven pricey lots, including works by Twombly, Pollock, Lucio Fontana, and the inevitable Warhol. Bacon, whose fleshly portraits have proved irresistible to collectors of late, is represented by a characteristically frank nude, "Portrait," said to be a depiction of the painter's first love, Peter Lacy. Two sessions of marginally less luxe items the following day include a mouth-watering depiction of three jelly rolls by Thiebaud, a specialist in desserts. (York Ave. at 72nd St. 212-606-7000.)

READINGS AND TALKS

The Jane Hotel

A budding crop of young American novelists, essayists, and poets have big shoes, and big margins, to fill. For more than five decades, the literary journal *The Paris Review* has been spotting sparks in some of the most important contemporary writers, from Philip Roth to David Foster Wallace. But, thankfully, the journal hasn't allowed the weight of legacy to muzzle young voices. "The Unprofessionals: New American Writing from *The Paris Review*" places works from modern notables in literature, like Zadie Smith and Ben Lerner, alongside writing by rising authors. Greta Gerwig, Hailey Gates, and Rebecca Henderson will read selections at this launch party for the forthcoming collection. (113 Jane St. 212-924-6700. Nov. 17.)



TABLES FOR TWO

BRUNO

204 E. 13th St.

THE FACT THAT THIS NEAPOLITAN pizzeria is named after a Dominican friar burned at the stake for heresy is your first clue that Bruno wants to bend the rules. Then there's the waiter's declaration that "big agriculture is so broken," which is why the kitchen mills organic wheat berries to create its own flour, as soft as talcum powder and free of pesticides, and which, he says, results in "a lighter feeling in the stomach."

Long explanations are the way it goes at Bruno, where two alums of Roberta's are determined to make pizza with at least a veneer of virtue. The pies are pliable and toothsome, not bubbly and crisp, and sometimes, as with the abundantly sauced pepperoni pizza, droop under the weight of all those good intentions, and the house-made ranch dressing. Mostly, they are very tasty and a tiny bit confusing, like the one with market greens, a tangle of spiky leaves, said to also come with carrot-top pesto and bottarga, though you'd never know it, aside from a pleasantly fishy funk. Even the margherita has a bite to it, which turns out to be from fermented tomatoes mixed in with the traditional canned. The result is vinegary, tangy, not as sweet as expected. Lovage strewn across the top adds sharpness to a pizza that is traditionally worshipped for its simplicity.

If you'd like your dinner made more complicated still, well, that's what the "Market" portion of the menu is for: inventive concoctions of vegetables and fish, manipulated so precisely that you might think of them as Modernist inspired. A dashi broth with apple-cider vinaigrette and boiled 'nduja is somehow meaty and ascetic at the same time, compelling enough to make you forget the main event, sweet potatoes and rutabaga. Celery root three ways (puréed, raw, roasted) might not sound like a good time, but it works, thanks in part to various diversionary tactics, like cured salmon, concord grapes, and Skyr yogurt, arranged around the plate like hours on a melting clock. The sheer prettiness of it all is at times overwhelming and, with the lights as bright as a hospital, can feel like a ploy for social-media love. But dinner here, while uneven, is an adventure, and when's the last time you said that about pizza? Doing things differently, Bruno knows, will never be easy.

—Amelia Lester

Open daily for dinner. Pizzas \$12-\$20.

PHOTOGRAPH BY MEREDITH JENKS



FOOD & DRINK

BAR TAB STAY CLASSY

174 Rivington St. (212-677-7733)

Like its spiritual hero, Ron Burgundy, of "Anchorman," this popular new Will Ferrell-themed bar on the Lower East Side is a loud, swinging, bad-taste good time. Fan art hangs on the walls; a nook in the back is decorated with lava lamps, cowbells, and a (jazz) flute. But, like Ferrell's George W. Bush, the bar can be fuzzy on strategy. Where Ferrell's characters joyfully mock obnoxiousness, Stay Classy celebrates it, serving sweet cocktails whose jokey names (Smelly Pirate Hooker, Dirty Mike and the Boys) are printed in all caps on a laminated menu. The Glass Case of Emotion, a peachy whiskey drink with a sprig of rosemary, manages a frisson of dignity; the Milk Was a Bad Choice (vanilla vodka, vanilla schnapps, milk, and ice), a sort of psychedelic White Russian, does not. On a recent Monday night, a man ordered a house specialty, and the bartender turned toward three women and screamed, "Who has the Whale's Vagina?" A group of guys who'd wandered in unwittingly sat beneath a TV playing "A Night at the Roxbury," looking confused, while speakers played a song by One Direction. "This place weirds me out, man," one of them said. "It used to be a punk-rock dive bar." Scotchy Scotch Scotch, please, bartender—and keep it coming.

—Sarah Larson





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THE TALK OF THE TOWN

COMMENT HARSH TALK

Three years ago, after the reelection of Barack Obama, a rueful Republican National Committee launched an inquiry into where the Party had gone wrong. Researchers for the Growth & Opportunity Project contacted more than twenty-six hundred people—voters, officeholders, Party operatives—conducted focus groups, and took polls around the country. The resulting report is a bracingly forthright piece of self-criticism that took the G.O.P. to task for turning off young voters, minorities, and women. A key finding was that candidates needed to curb the harsh talk about immigration. Mitt Romney’s call for “self-deportation” was loser rhetoric. Making people feel that “a GOP nominee or candidate does not want them in the United States” was poor politics. The report offered one specific policy recommendation: “We must embrace and champion comprehensive immigration reform. If we do not, our Party’s appeal will continue to shrink to its core constituencies.”

None of the current Republican Presidential hopefuls seem to have taken that counsel to heart. Donald Trump, the front-runner, wouldn’t, of course. “The Hispanics love me,” he claims, despite the fact that he proposes building a wall on the Mexican border to keep out people he equates with “criminals, drug dealers, rapists.” Ben Carson takes issue with Trump’s stance, sort of. “It sounds really cool, you know, ‘Let’s just round them all up and send them back,’” he said. But it would cost too much, so he advocates deploying armed drones at the border.

Some Republicans are hoping that Marco Rubio and Ted Cruz, who rose to third and fourth place following last month’s debate in Boulder—or even Jeb Bush, in fifth—can help this situation. Rubio’s parents were born in Cuba, as was Cruz’s father. But Cruz, a Tea Party conservative and a Southern Baptist, isn’t exactly an avatar of Latino cultural identity. When he does embrace that identity, it tends to be awkward, as when he

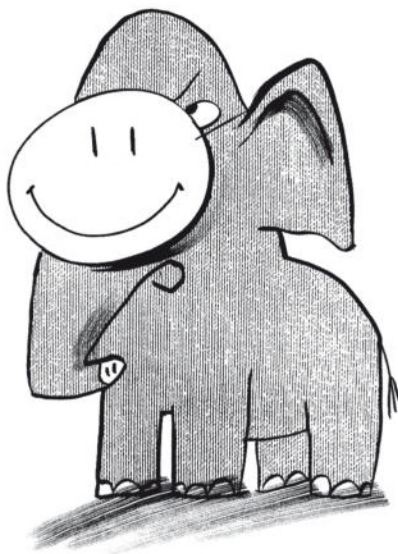
told a meeting of the Hispanic Chamber of Commerce last spring, “I don’t think I’ve ever seen a Hispanic panhandler. And the reason is in our community it would be shameful to be begging on the street.” Rubio is at ease invoking the experience of his immigrant parents—his father was a bartender, his mother a maid—and sometimes gives interviews in Spanish, though he has had to defend the practice against attacks from Trump. Bush has a bicultural family. But all three have moved to the unwelcoming right on immigration.

In 2013, Rubio sponsored a bipartisan bill to create a path to citizenship for undocumented immigrants living here, but he renounced it and now says that we “can’t even have a conversation” about the fate of the undocumented until the borders are secured. Cruz has endorsed eliminating automatic birthright citizenship for children born in the United States to undocumented parents. Bush is still willing to grant citizenship to some undocumented immigrants, if they meet a long list of conditions. But this summer he released a six-point plan that stresses the need for a military-style fortification of the border.

All three also differ with majorities of Latino voters on other issues. Most Latino voters support stricter gun control

and a higher minimum wage, and most say that climate change matters to them personally and that the federal government needs to act on it. Moreover, any assumption that Latino voters—a very diverse group—can be relied upon to choose Latino candidates regardless of their positions is not supported by evidence. In Texas in 2012, when Cruz ran for the Senate, about sixty per cent of the Latino vote went to his opponent, a white Democrat.

In the primary season candidates often say things that make trouble for their party in the general election. We’re likely to see an extreme version of that phenomenon this time, above all in battleground states like Colorado, Nevada,



and North Carolina, where the winner will need to carry the minority vote. Trump's anti-immigrant sloganeering and his rivals' scramble to keep up with it won't be easy to forget. In 2012, Romney got just twenty-three per cent of the Latino vote. In 2016, the Republican candidate will need to get twice that, according to a recent analysis made by the political scientists David Damore and Matt Barreto. That's because the Latino share of the electorate has been growing. By 2050, the Latino population in the U.S. is projected to be twenty-nine per cent, up from seventeen per cent today. Republican candidates have often told themselves they have more of a chance of winning Hispanic voters than black voters, finding common ground on social issues. "Republicans often seem to think if they could just get beyond immigration issues there'd be all kinds of opportunities for them with Latino voters," John Green, a political scientist at the University of Akron, says. "That's a little like saying if we could just get beyond civil rights we'd be good with black voters."

Last month, at a candidates' forum in Plano, Texas, the conservative activist Ralph Reed proposed a strategy that ignores the issue altogether: Republicans should just focus on the evangelical vote, which, he claimed, is "larger than the African-American vote, the Latino vote, the feminist vote, the gay vote, and the union vote combined." He was

resurrecting a popular G.O.P. theory that President Obama was reelected only because millions of conservative, and especially evangelical, voters went "missing" in 2012. All the 2016 Republican nominee has to do is get those voters to return to the polls. Green finds the "missing" theory unlikely—evangelicals tend to be motivated, reliable voters—and Karl Rove himself dismissed it in a *Wall Street Journal* opinion piece titled "The Myth of the Stay-at-Home Republicans." But the strategy seems particularly problematic in its willingness to dismiss whole segments of the population—precisely what the 2012 postmortem advised against.

Before the start of last month's debate, representatives from conservative Latino groups gathered in Boulder to issue some warnings about what would happen if the Party didn't distance itself from extreme immigration politics. Their message was of a piece with the 2012 report, but even more blunt. Rosario Marin, who served as the U.S. Treasurer under President George W. Bush, said, "Don't expect us to come to your side during the general election. You are not with us now, we will not be with you then. You don't have our vote now, you won't have it then. You insult us now, we will be deaf to you then." In the meantime—and no doubt especially at next month's debate in Nevada, a state that is nearly thirty per cent Latino—they will be listening carefully.

—Margaret Talbot

ON THE HUSTINGS NEED THAT CASH



Martin Knott, Jr., is the national finance chairman for Martin O'Malley, the Democratic Presidential candidate and former governor of Maryland. Not long ago, Knott and Damian O'Doherty, the head of O'Malley's super PAC, flew to Kansas City, rented a car, and headed for Des Moines, to join O'Malley at the Jefferson-Jackson dinner, a prerequisite for any caucus hopeful. Knott pursues one kind of donor, and O'Doherty pursues another—inside money, outside money, you might say. Election laws forbid them from coordinating, so they have to be careful when they travel together. "We are very strict about not ending up in jail," Knott said last week. They listen to music and don't talk much.

Leaving Kansas City, Knott, a Grateful Dead fanatic, put on the Dead's 1990 live CD "Without a Net." "It seemed appropriate," Knott said. Fundraising for a long shot can feel like

a high-wire act. Speeding through cornfields under a vast blue Iowa sky, Knott flashed back to bygone migrations to Midwestern amphitheatres. "I felt like I was back on tour, headed for Deer Creek," he said. "Going down the road feeling bad!" And then dropping into the Jefferson-Jackson dinner—it was like dropping into a show." He began to evolve a theory that crisscrossing the country to raise money for a Presidential candidate is a lot like following the Dead. "You know the back roads, so to speak," he said. "On tour and on the trail, you learn how to connect with people."

Knott, who is forty-four, attended, or at least matriculated at, Xavier University, in Cincinnati, in the early nineties, and used it as a base of touring operations. In 1993, the year before he graduated, he attended forty-two shows. To many Deadheads, he is known as the Today in Grateful Dead History guy. Every weekday for the past nine years, he has sent out an e-mail blast with a link to a streamable recording of a concert from the date in question, along with some hastily typed pensées.

Ladies and gentlemen

It doesn't matter if it's 1978, 1979, 1982, 1983, 1984, 1985, or 1987

Red Rocks and the Grateful Dead. . . .
1+1=1

Knott, who runs an H.V.A.C. and plumbing business in Baltimore, reckons that no one has ever raised as much money for Maryland Democratic gubernatorial candidates as he has. He comes from a family of prominent Baltimore Catholics. His grandfather on his father's side, Henry J. Knott, was a bricklayer who became a prosperous real-estate developer; the family foundation supports Catholic charities and schools. On his mother's side, there are connections reaching back



Martin Knott, Jr.

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to the old Baltimore mayor Tommy D'Alesandro, Nancy Pelosi's father. "My great-grandfather ran her father's and brother's campaigns," Knott said. He has more than a hundred first cousins.

He passed through New York a couple of weeks ago to attend a Wall Street Deadhead networking event (he's also on the board of the Rex Foundation, the Dead's charity) and then was back in town last week to attend a performance at Madison Square Garden by a group featuring three of the Dead's surviving members—and to meet with a slate of potential donors. The morning after the show, he was at a coffee shop in the West Village, in a pink shirt and blue suit, caffeinating for some afternoon meetings. He's big and fit, with a John Edwards part and puggish eyes.

Knott met O'Malley in 1998, when O'Malley, a Baltimore councilman, was running for mayor. "He asked me for a thousand dollars, which was a lot for me," Knott said. "We hit it off. We were the youngest guys in the room. We were fellow-Jesuits." They also both liked music—O'Malley is a Springsteen fan and plays in a Celtic rock band. Knott was a chairman of O'Malley's 2006 and 2010 gubernatorial campaigns. When O'Malley asked him, in May, to run the national campaign, Knott looked to Jerry Garcia: "I was like, 'One good ride from start to end? I'd like to take that ride again.'" (These are lyrics from the song "Might As Well.")

O'Malley, at the moment, is run-

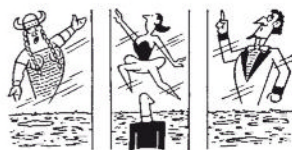
ning a distant third in a field of three. But, as Knott sees it, to the extent that Bernie Sanders, as an avowed socialist, is unelectable, and that Hillary Clinton is still vulnerable ("The only person who's ever been able to stop her is her," Knott said), his man would be next in line. "Last I checked, three minus two is one," Knott said. "Our focus is Iowa, Iowa, Iowa, Iowa—and New Hampshire."

The candidate said on Thursday, "If O'Malley's March had amassed a dedicated fan base as big as the Grateful Dead's, I'd be running away with this thing."

Last week, polls had O'Malley with seven per cent support in Iowa in advance of this weekend's debate in Des Moines. Knott, echoing O'Malley, said, "We got 'em right where we want 'em." He also noted that the Dead never played a bad show in Iowa. "Not once! Zero plus one equals one."

—Nick Paumgarten

THE BOARDS WOMEN'S WORK



Dame Harriet Walter is regarded as one of the greatest living Shakespearean actors: in the past decade, she has delivered revelatory interpretations of Cleopatra and Lady

Macbeth with the Royal Shakespeare Company. But because of her gender and her age—she is sixty-five—the roles available to her are dwindling. "Shakespeare just doesn't do mothers," she said the other morning, in the lobby of St. Ann's Warehouse, on the Dumbo waterfront. "In one way, he's very honest—he didn't know much about women at that age. But he didn't know much about so many things, and he could get into the Moor of Venice, so why couldn't he understand an older woman? The longer I live with him, the more that feels like a sad little disconnect for me."

Fortunately, Walter has discovered a partial remedy for her Shakespeare problem. This month, she takes on the title role of "Henry IV" in an all-female production of the play, directed by Phyllida Lloyd. (It originated at the Donmar Warehouse, in London.) Two years ago, the company performed an all-female "Julius Caesar," also at St. Ann's Warehouse. Both productions are set in a women's prison, with the actors playing prisoners who are playing Shakespeare. "Many of the younger actors have said it has really helped, because you go, 'Oh, God, I can't play Prince Hal, but I can play a prisoner who is playing Prince Hal,' so it's a way of accessing something that's true to you," Walter said.

Walter and her colleagues worked in rehearsal on their body language. "It was a question of inhabiting a body that felt unapologetic about taking up space. So we will sit like this"—Walter, who was wearing dark-blue pants and a dark-purple wool coat, spread her knees, like the stick figure in the monitory poster on the subway—"because a man will go like that. It is sort of getting behind the person who owns that kind of a body." They sought to diminish their reliance on gestures that indicated submissiveness—Walter folded her hands on her breast by way of example—and to eliminate automatic vocal patterns. "Sometimes women do what is called devoicing, which is when they deliberately soften their voices so as to be non-threatening," she said, with a demonstrative huskiness. "All these techniques we don't even know we are doing suddenly come up in the rehearsal room, and




"We were not amused."

A black and white portrait of a woman with short, wavy blonde hair, smiling and looking off to the side. She is wearing a dark turtleneck sweater. The background is a soft, out-of-focus grey.

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"It was like a flashbulb went off in my eyes." That's the last thing Nancy Jarecki remembers before a blood vessel in her brain exploded. Forty percent of people who suffer brain aneurysms like Nancy's don't survive. And of those who do, many have severely impaired brain function. But the skilled neurosurgery team at NewYork-Presbyterian helped Nancy beat the odds. When she opened her eyes in the recovery room, she wasn't just awake—she was, to her own amazement, very much herself.

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they become blocks to the audience's believing who we are."

Reviews in London were almost universally laudatory, though the *Spec-tator* grumbled about the "wrong-sex casting" and disparagingly compared Walter's gaunt appearance, with her chin-length hair slicked back, to Peter O'Toole imitating David Bowie. Walter said, "Shakespeare's a non-naturalistic writer: the theatre of his day wouldn't have said you have to be black to play Othello, or you can only be an old man to play King Lear, or you have got to be a woman to play Juliet." The challenge as an actor is not playing a man but playing a man with power. "That's the big leap—the leap of having the weight on your shoulders of all decisions in the country—'Uneasy lies the head that wears the crown,'" she explained. "Women today do have access to power—not enough of them, but it is part of our experience. We are part of public life, when the female characters in Shakespeare are very definitely not part of public life."

She added, "There are exceptions, but pretty much the women in Shakespeare are talking about their man, or



Dame Harriet Walter

putting themselves in relation to the man." Shakespeare fails the Bechdel test, she suggested: "There's a lovely scene between Emilia and Desdemona, all talking about men; Rosalind and Celia mostly talk about men. So it is wonderful to play Brutus and Cassius talking about how we should go about changing the world." Walter went on, "He doesn't write less well for women; it's just that the themes are smaller, on

the whole, and they are less fulfilled characters. When the greatest playwright—so considered—in the English language leaves women out of the picture so much, it has a bad effect on your sense of worth, because the culture that followed in his shadow has reinforced that. It does have an effect on us."

A third production with Phyllida Lloyd is planned, and although the play has not yet been determined, there is one tragic hero Walter would relish taking on. "Having played Lady Macbeth"—opposite Antony Sher, in 1999—"I would love to play Macbeth," she said. "We were yin and yang. I would like to try the yang to the yin—or whichever the female is. I can't remember."

—Rebecca Mead

THE MUSICAL LIFE PRIZE-WINNER



Ariunbaatar Ganbaatar, winner of first prize in the male-vocalist category in the fifteenth International Tchaikovsky Competition, held in Moscow and St. Petersburg last summer, and winner of the competition's Grand Prix, for over-all excellence, is a tall and rangy young guy. Offstage, he wears jeans, a dark shirt, a thin quilted vest, and shiny black ankle boots. Onstage, he wears black tie, which his shock of black hair complements. He walks with the confidence of someone whom the world is discovering and vice versa. No Mongolian has ever won the competition before. On a recent Saturday afternoon, Ganbaatar made his American debut at Carnegie Hall, in the Tchaikovsky Competition Winners' Recital, along with the first-prize recipients for cello, female vocalist, and piano.

He talked to reporters in his dressing room beforehand. A young woman, Nomundari Baatar, who is a junior at N.Y.U. majoring in math and economics, translated from Mongolian. He said he was born in a rural area west of Ulan Bator, in 1988. His father named him Ariunbaatar, which means

"Pure Hero." His friends call him Ariuka. The family are nomads, herding cows, sheep, and goats over a range of about four hundred kilometres on the steppe, except in the winter, when they move to apartments in Ulan Bator. They use horses, and motorcycles of Japanese and Chinese manufacture, which he knows how to repair. He began singing folk songs when he was seven. The Mongolian people have hundreds of folk songs about nature, love, and loneliness; some of them are many centuries old and go back to Genghis Khan.

When he was seventeen, he was admitted to the Mongolian State University of Culture and the Arts and began to take singing lessons. Because of a lack of money, he left after two years. He then became a traffic policeman. The police department of Ulan Bator has a men's chorus that performs all over Mongolia and sometimes in Russia. He became a soloist in the chorus. During a performance in Ulan Ude, capital of the Republic of Buryatia, in Siberia, staff members from the Buryat State Academic Opera and Ballet Theatre heard him and invited him to join. For the past year, he has been a singer at the theatre, dividing his time between apartments in Ulan Ude and Ulan Bator. He has been to New York City once before; on that visit he stood in front of the Metropolitan Opera House and put his hands together and prayed that someday he would sing there. Now, he said, he needed to eat his lunch—a paper cup of soup and half a sandwich from a nearby deli—so that he would have an hour between when he finished eating and when he performed.

Valery Gergiev, the conductor, who is the co-chair of the International Tchaikovsky Competition, hosted the sold-out recital. He told the audience that in eleven million viewing sessions people in a hundred and eighty-six countries had watched the competition on the medici.tv channel and had spent an average of an hour and twenty-nine minutes on each visit. He introduced the winners: Andrei Ionuț Ioniță, from Romania, on cello; Yulia Matochkina, from Russia, vocalist; Dmitry Masleev, also from Russia (and, remarkably, also from Ulan Ude),

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on piano; and Ganbaatar. All got big applause and callbacks for their performances. Ganbaatar sang “Silence of the Secret Night,” by Rachmaninoff, and “I love you beyond measure,” from Tchaikovsky’s opera “The Queen of Spades.” In the exuberance afterward, admirers said, “Ganbaatar goes *inside* the music,” and “He’s got soul,” and “If the Met knows what it is doing, it will grab him.”

At a post-concert luncheon at the hall’s Weill Terrace, the radio host Naomi Lewin interviewed Ganbaatar as prelude to a brief encore. She asked what was the first opera he ever saw. He said it was an opera on television. She pressed: which opera? He did not want to say. Then he admitted it was a cartoon: “Tom and Jerry.” Baatar, the translator, explained that the “Tom and Jerry” episode in which Jerry, the mouse, sings “Figaro” appears often on TV in Mongolia. Ganbaatar, a baritone, then sang the “Figaro” aria for the guests. Somehow the “Tom and Jerry” influence showed—he rocked the joint. An American composer at Table 7, who had to turn his chair around to watch, turned back to the table with tears in his eyes and declared Ganbaatar the real thing. As the afternoon ended, Gergiev told the guests, “These young musicians will come back to New York and to Carnegie Hall many, many times, and this will be remembered as the first time that they were here.”

—Ian Frazier

HERE TO THERE DEPT. ROADWORK



People observe art differently than they do ordinary objects,” Dushko Petrovich, a forty-year-old painter and writer, likes to say. Four years ago, soon after realizing that he was wearing plaid shirts exclusively, Petrovich began a series of plaid paintings. His latest project concerns his commute.

Petrovich teaches visual art, as an adjunct, at Yale, RISD, and Boston University. He lives in Brooklyn, driving from job to job along the edges of what he

calls the Commuter Triangle. “When I used to tell the joke in a fake Boston accent, *commutah* rhymed perfectly with Bermuda,” he said between classes the other day. “It can be kind of a trap.”

“I’d hear about friends teaching in the same city on the same day, or people needing a ride,” he said. “I started to get a mental image of this community, people leaving and coming back, doing a circuit. It’s especially true with artists, because artists want to live in New York but there aren’t enough teaching jobs here.”

This past summer, he launched *Adjunct Commuter Weekly*, a magazine to serve what he calls “the life-style needs and shared interests of a rapidly growing and increasingly influential demographic.” The first issue contains audiobook reviews, strategies for packing a suitcase, and recipes for meals on the go. On one page, beneath an essay on trains, there’s a recommendation for a book called “Super Commuter Couples: Staying Together When a Job Keeps You Apart”—an *ACW* editor’s pick.

On a recent Monday, Petrovich packed a few copies to deliver to campuses. He leaves for Yale a little before 9 A.M., teaches two classes there, drives to Boston for an evening seminar, and returns to Brooklyn after midnight. He keeps a small aloe plant in one of his car’s cup holders.

“My therapist is in New Haven, and my doctor is in Massachusetts,” he said. “And I used to have a dentist around there.”

On his way, Petrovich stopped in Bed-Stuy to pick up Sam Messer, a painter who, for close to a decade, commuted to New Haven from California to teach one day a week. (Messer moved to New York in 2005, when Yale offered him the position of associate dean.) Petrovich recalled Messer’s asking him, “You think Brooklyn’s hard?”

“I had applied for a full-time job and didn’t get it, and Yale offered me a part-time job for one semester, one day a week,” Messer said, plugging his phone into the dashboard charger. “It wasn’t much money. But I just needed a job, so I took it. I would take the Sunday overnight flight to J.F.K., take a cab to Grand Central, get on the 8 A.M.

train, and I’d be teaching at ten-thirty. I would spend a night with a friend of mine in the city, then I would go home.”

“A well-known friend!” Petrovich said.

“Yeah, I used to stay with Kiki Smith. We would draw each other,” Messer said. “It was like that for nine years, and I was never late once.”

“Sam used to make—what do you call it? You had a specific word.”

“Photoplasms. On the airplane,” he said. “I’d take 35-millimetre negatives with me, and I’d tape them to the window. Then I would bring a little tube of turpentine and an etching needle and a little brush, and I would work on the negatives while we were flying.”

“Pre-9/11,” Petrovich said.

“Then I would pay a graduate student to print them. And I just finished a film that was made with etchings that I’ve been working on for years.”

“One day, we drove up with Rochelle Feinstein”—another painter who teaches at Yale—“and she was telling us about love stories she had witnessed among commuters,” Petrovich said. “You drive together every week, or ride the bus together, I guess, and just fall in love, you know? You form a whole relationship.” He briefly took his eyes off the road. “Sam just ignores me and checks his e-mail.”

“That’s because I have two jobs,” Messer said. (In addition to being an associate dean, he still teaches.)

Petrovich recently decided to fold the print edition of *ACW*, citing financial pressure. He has adapted the publication for the Web, and plans to add a ride-sharing app and a podcast hosted from his car.

Soon after crossing into southern Connecticut on I-95, Petrovich pulled off at an exit. “I’m going to take you to my favorite McDonald’s, since you didn’t have breakfast,” he said to Messer. “It’s my favorite because it’s right off the road.” He rolled into a parking lot and cut the ignition.

“Isn’t there a drive-through?” Messer asked.

“No drive-through, sorry,” Petrovich said.

“Man,” Messer said, unfastening his seat belt. “We gotta get out.”

—Alex Carp



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POLITICS AND THE NEW MACHINE

What the turn from polls to data science means for democracy.

BY JILL LEPORE



I am who I am,” Donald J. Trump said in August, on the eve of this season’s first G.O.P. Presidential debate, and what he meant by that was this: “I don’t have a pollster.” The word “pollster,” when it was coined, was meant as a slur, like “huckster.” That’s the way Trump uses it. Other candidates have pollsters: “They pay these guys two hundred thousand dollars a month to tell them, ‘Don’t say this, don’t say that.’” Trump has none: “No one tells me what to say.”

Every election is a morality play. The Candidate tries to speak to the People but is thwarted by Negative Campaign-

ing, vilified by a Biased Media, and haunted by a War Record. I am who I am, the Candidate says, and my Opponents are flunkies. Trump makes this claim with unrivalled swagger, but citing his campaign’s lack of a pollster as proof of his character, while fascinating, is utterly disingenuous. The Path to Office is long. To reach the Land of Caucuses and Primaries, the Candidate must first cross the Sea of Polls. Trump is a creature of that sea.

Lately, the Sea of Polls is deeper than ever before, and darker. From the late nineteen-nineties to 2012, twelve hun-

dred polling organizations conducted nearly thirty-seven thousand polls by making more than three billion phone calls. Most Americans refused to speak to them. This skewed results. Mitt Romney’s pollsters believed, even on the morning of the election, that Romney would win. A 2013 study—a poll—found that three out of four Americans suspect polls of bias. Presumably, there was far greater distrust among the people who refused to take the survey.

The modern public-opinion poll has been around since the Great Depression, when the response rate—the number of people who take a survey as a percentage of those who were asked—was more than ninety. The participation rate—the number of people who take a survey as a percentage of the population—is far lower. Election pollsters sample only a minuscule portion of the electorate, not uncommonly something on the order of a couple of thousand people out of the more than two hundred million Americans who are eligible to vote. The promise of this work is that the sample is exquisitely representative. But the lower the response rate the harder and more expensive it becomes to realize that promise, which requires both calling many more people and trying to correct for “non-response bias” by giving greater weight to the answers of people from demographic groups that are less likely to respond. Pollster.com’s Mark Blumenthal has recalled how, in the nineteen-eighties, when the response rate at the firm where he was working had fallen to about sixty per cent, people in his office said, “What will happen when it’s only twenty? We won’t be able to be in business!” A typical response rate is now in the single digits.

Meanwhile, polls are wielding greater influence over American elections than ever. In May, Fox News announced that, in order to participate in its first prime-time debate, hosted jointly with Facebook, Republican candidates had to “place in the top ten of an average of the five most recent national polls.” Where the candidates stood on the debate stage would also be determined by their polling numbers. (Ranking in the polls had earlier been used to exclude third-party candidates.) Scott Keeter, Pew’s director of survey research, is among the many public-opinion experts who found Fox

Polling may never have been less reliable, or more influential, than it is now.



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News's decision insupportable. "I just don't think polling is really up to the task of deciding the field for the headliner debate," Keeter told me. Bill McInturff doesn't think so, either. McInturff is a co-founder of Public Opinion Strategies, the leading Republican polling organization; with its Democratic counterpart, Hart Research Associates, he conducts the NBC News/*Wall Street Journal* poll. "I didn't think my job was to design polling so that Fox could pick people for a debate," McInturff told me. Really, it's not possible to design a poll to do that.

Even if more people could be persuaded to answer the phone, polling would still be teetering on the edge of disaster. More than forty per cent of America's adults no longer have landlines, and the 1991 Telephone Consumer Protection Act bans autodialling to cell phones. (The law applies both to public-opinion polling, a billion-dollar-a-year industry, and to market research, a twenty-billion-dollar-a-year industry.) This summer, Gallup Inc agreed to pay twelve million dollars to settle a class-action lawsuit filed on behalf of everyone in the United States who, between 2009 and 2013, received an unbidden cell-phone call from the company seeking an opinion about politics. (Gallup denies any wrongdoing.) In June, the F.C.C. issued a ruling reaffirming and strengthening the prohibition on random autodialling to cell phones. During congressional hearings, Greg Walden, a Republican from Oregon, who is the chair of the House Subcommittee on Communications and Technology, asked F.C.C. chairman Tom Wheeler if the ruling meant that pollsters would go "the way of blacksmiths." "Well," he said, "they have been, right?"

Internet pollsters have not replaced them. Using methods designed for knocking on doors to measure public opinion on the Internet is like trying to shoe a horse with your operating system. Internet pollsters can't call you; they have to wait for you to come to them. Not everyone uses the Internet, and, at the moment, the people who do, and who complete online surveys, are younger and leftier than people who don't, while people who have landlines, and who answer the phone, are older and more conservative than people who don't. Some

pollsters, both here and around the world, rely on a combination of telephone and Internet polling; the trick is to figure out just the right mix. So far, it isn't working. In Israel this March, polls failed to predict Benjamin Netanyahu's victory. In May in the U.K., every major national poll failed to forecast the Conservative Party's win.

"It's a little crazy to me that people are still using the same tools that were



used in the nineteen-thirties," Dan Wagner told me when I asked him about the future of polling. Wagner was the chief analytics officer on the 2012 Obama campaign and is the C.E.O. of Civis Analytics, a data-science technology and advisory firm. Companies like Civis have been collecting information about you and people like you in order to measure public opinion and, among other things, forecast elections by building predictive models and running simulations to determine what issues you and people like you care about, what kind of candidate you'd give money to, and, if you're likely to turn out on Election Day, how you'll vote. They might call you, but they don't need to.

Still, data science can't solve the biggest problem with polling, because that problem is neither methodological nor technological. It's political. Pollsters rose to prominence by claiming that measuring public opinion is good for democracy. But what if it's bad?

A "poll" used to mean the top of your head. Ophelia says of Polonius, "His beard as white as snow: All flaxen was his poll." When voting involved assembling (all in favor of Smith stand here, all in favor of Jones over there), counting votes required counting heads; that is, counting polls. Eventually, a "poll" came to mean the count itself. By the nineteenth century, to vote was to go "to the polls," where, more and more, vot-

ing was done on paper. Ballots were often printed in newspapers: you'd cut one out and bring it with you. With the turn to the secret ballot, beginning in the eighteen-eighties, the government began supplying the ballots, but newspapers kept printing them; they'd use them to conduct their own polls, called "straw polls." Before the election, you'd cut out your ballot and mail it to the newspaper, which would make a prediction. Political parties conducted straw polls, too. That's one of the ways the political machine worked.

Straw polls were usually conducted a few days or weeks before an election. This August, to cull the field for the first G.O.P. debate, Fox News used polls conducted more than four hundred and sixty days before the general election. (These early polls have become so unreliable that neither Gallup nor Pew conducts them.) The question asked ordinarily takes the form of "If the election were held tomorrow . . ." The circumstances under which the next U.S. Presidential election would actually be held tomorrow involve, essentially, Armageddon. Trump won. All flaxen was his poll.

A century ago, newspapers that wanted to predict the outcome of a Presidential election had to join forces. In 1908, the *New York Herald*, the *Cincinnati Enquirer*, the *Chicago Record-Herald*, and the *St. Louis Republic* tallied their straws together. William Randolph Hearst's newspapers did the same thing. But the best predictions were made by a national magazine, the *Literary Digest*, beginning in 1916. It regularly miscalculated the popular vote, but for a long time it got the Electoral College winner right. In 1920, the *Digest* mailed out eleven million ballots. By 1932, its mailing list had swelled to twenty million. Most of those names were taken from telephone directories and automobile-registration files. George Gallup was one of the few people who understood that the *Digest* risked underestimating Democratic votes, especially as the Depression deepened, because its sample, while very big, was not very representative: people who supported F.D.R. were much less likely than the rest of the population to own a telephone or a car.

Gallup was borrowing from the insights of social science. Social surveys, first conducted in the eighteen-nineties,

had been a hallmark of Progressive Era social reform. In 1896, W. E. B. Du Bois went door to door in Philadelphia's Seventh Ward and interviewed some five thousand people in order to prepare his study "The Philadelphia Negro." In the nineteen-thirties, social scientists argued for the merits of a shortcut that relied on statistical science: surveying a tiny but representative sample of a population.

Gallup had always wanted to be a newspaper editor, but after graduating from the University of Iowa, in 1923, he entered a Ph.D. program in applied psychology. In 1928, in a dissertation called "An Objective Method for Determining Reader Interest in the Content of a Newspaper," Gallup argued that "at one time the press was depended upon as the chief agency for instructing and informing the mass of people" but that newspapers no longer filled that role and instead ought to meet "a greater need for entertainment." He therefore devised a method: he'd watch readers go through a newspaper column by column and mark up the parts they liked, so that he could advise an editor which parts of the paper to keep printing and which parts to scrap.

In 1932, when Gallup was a professor of journalism at Northwestern, his mother-in-law, Ola Babcock Miller, ran for secretary of state in Iowa. Her late husband had run for governor; her nomination was largely honorary and she was not expected to win. Gallup had read the work of Walter Lippmann. Lippmann believed that "public opinion" is a fiction created by political élites to suit and advance their interests. Gallup disagreed, and suspected that public opinion, like reader interest, could be quantified. To get a sense of his mother-in-law's chances, Gallup began applying psychology to politics. The year of the race (she won), Gallup moved to New York, and began working for an advertising agency while also teaching at Columbia and running an outfit he called the Editors' Research Bureau, selling his services to newspapers. Gallup thought of this work as "a new form of journalism." But he decided that it ought to sound academic, too. In 1935, in Princeton, he founded the American Institute of Public Opinion, with funding provided by more than a hundred newspapers.

In 1936, in his syndicated column

Gallup predicted that the *Literary Digest* would calculate that Alf Landon would defeat F.D.R. in a landslide and that the *Digest* would be wrong. He was right on both counts. This was only the beginning. "I had the idea of polling on every major issue," Gallup explained. He began insisting that this work was essential to democracy. Elections come only every two years, but "we need to know the will of the people at all times." Gallup claimed that his polls had rescued American politics from the political machine and restored it to the American pastoral, the New England town meeting. Elmo Roper, another early pollster, called the public-opinion survey "the greatest contribution to democracy since the introduction of the secret ballot."

Gallup's early method is known as "quota sampling." He determined what proportion of the people are men, women, black, white, young, and old. The interviewers who conducted his surveys had to fill a quota so that the population sampled would constitute an exactly proportionate mini-electorate. But what Gallup presented as "public opinion" was the opinion of Americans who were disproportionately educated, white, and male. Nationwide, in the nineteen-thirties and forties, blacks constituted about ten per cent of the population but made up less than two per cent of Gallup's survey respondents. Because blacks in the South were generally prevented from voting, Gallup assigned no "Negro quota" in those states. As the historian Sarah Igo has pointed out, "Instead of functioning as a tool for democracy, opinion polls were deliberately modeled upon, and compounded, democracy's flaws."

Ever since Gallup, two things have been called polls: surveys of opinions and forecasts of election results. (Plenty of other surveys, of course, don't measure opinions but instead concern status and behavior: Do you own a house? Have you seen a doctor in the past month?) It's not a bad idea to reserve the term "polls" for the kind meant to produce election forecasts. When Gallup started out, he was skeptical about using a survey to forecast an election: "Such a test is by no means perfect, because a pre-election survey must not only measure public opinion in respect to candidates

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but must also predict just what groups of people will actually take the trouble to cast their ballots." Also, he didn't think that predicting elections constituted a public good: "While such forecasts provide an interesting and legitimate activity, they probably serve no great social purpose." Then why do it? Gallup conducted polls only to prove the accuracy of his surveys, there being no other way to demonstrate it. The polls themselves, he thought, were pointless.

Donald Trump doesn't have a campaign pollster, but, while he was leading them, his campaign loved polls. Polls admitted Trump into the first G.O.P. debate and polls handed him a victory. "Donald J. Trump Dominates *Time* Poll," the Trump campaign posted on its Web site following the August debate, linking to a story in which *Time* reported that forty-seven per cent of respondents said that Trump had won. *Time*'s "poll" was conducted by PlayBuzz, a viral-content provider that embeds quizzes, polls, lists, and other "playful content" items onto Web sites to attract traffic. PlayBuzz collected more than seventy-seven thousand "votes" from visitors to *Time*'s Web site in its instant opt-in Internet poll. *Time* posted a warning: "The results of this poll are not scientific."

Because most polls do not come with warnings, many reporters and news organizations have been trying to educate readers about polling methods. The day after the first G.O.P. debate, Slate published a column called "Did Trump Actually Win the Debate? How to Understand All Those Instant Polls That Say Yes." This, though, didn't stop Slate from conducting its own instant poll. "TV talking heads won't decide this election," Slate's pollster promised. "The American people will."

The statistician Nate Silver began explaining polls to readers in 2008; the *Times* ran his blog, *FiveThirtyEight*, for four years. Silver makes his own predictions by aggregating polls, giving greater weight to those which are more reliable. This is helpful, but it's a patch, not a fix. The distinction between one kind of poll and another is important, but it is also often exaggerated. Polls drive polls. Good polls drive polls and bad polls drive polls, and when

bad polls drive good polls they're not so good anymore.

Laws govern who can run for office and how. There are laws about who can vote, and where, and when. Seven constitutional amendments and countless Supreme Court cases concern voting. But polls are largely free from government regulation, or even scrutiny. (This is not true in other countries; Canadian election law, for instance, regulates the disclosure of election polls.)

This wasn't always the case. In the nineteen-thirties and forties, motions were regularly introduced in Congress calling for an investigation into the influence of public-opinion polling on the political process. "These polls are a racket, and their methods should be exposed to the public," Walter Pierce, a Democratic member of the House, wrote in 1939, the year *Time* first called George Gallup a "pollster." One concern was that polls were jury-rigged. In the Presidential election of 1944, George Gallup underestimated Democratic support in two out of three states. When Congress called him in for questioning to answer the charge that "the Gallup poll was engineered in favor of the Republicans," Gallup explained that, anticipating a low turnout, he had taken two points off the projected vote for F.D.R. In another instance, a congressman voiced concern that polls "are in contradiction to representative government": pollsters appeared to believe that the United States is or ought to be a direct democracy.

Social scientists began criticizing pollsters, too. In 1947, in an address to the American Sociological Association, Herbert Blumer argued that public opinion does not exist, absent its measurement. Pollsters proceed from the assumption that "public opinion" is an aggregation of individual opinions, each given equal weight—an assumption Blumer demonstrated to be preposterous, since people form opinions "as a function of a society in operation." We come to hold and express our opinions in conversation, and especially in debate, over time, and different people and groups influence us, and we them, to different degrees.

Gallup got his back up. In 1948, the week before Election Day, he said, "We have never claimed infallibility, but next Tuesday the whole world will be able to see down to the last percentage point

how good we are.” He predicted that Dewey would beat Truman. He was quite entirely wrong.

Gallup liked to say that pollsters take the “pulse of democracy.” “Although you can take a nation’s pulse,” E. B. White wrote after the election, “you can’t be sure that the nation hasn’t just run up a flight of stairs.”

In the wake of polling’s most notorious failure, the political scientist Lindsay Rogers published a book called “The Pollsters: Public Opinion, Politics, and Democratic Leadership.” Rogers, the Burgess Professor of Public Law at Columbia, had started out as a journalist and, as a scholar, he was a humanist at a time when most students of government had turned away from the humanities and toward social science. (Amy Fried, in an essay about what was lost in that abandonment, has called him “the Forgotten Lindsay Rogers.”) He had drafted “The Pollsters” before the election debacle; his concern had very little to do with miscalculation. Where Blumer argued that polling rests on a misapplication of social science, Rogers argued that it rests on a misunderstanding of American democracy. Even if public opinion could be measured (which Rogers doubted), he believed that legislators’ use of polls to inform their votes would be inconsistent with their constitutional duty. The United States has a representative government for many reasons, among them that it protects the rights of minorities against the tyranny of a majority. “The pollsters have dismissed as irrelevant the kind of political society in which we live and which we, as citizens, should endeavor to strengthen,” Rogers wrote. Polls, Rogers believed, are a majoritarian monstrosity.

The alarms raised by Blumer and Rogers went unheeded. Instead, many social scientists came to believe that, if the pollsters failed, social science would fail with them (not least by losing foundation and federal research money). Eight days after Truman beat Dewey, the Social Science Research Council appointed an investigative committee, explaining that “extended controversy regarding the pre-election polls among lay and professional groups might have extensive and unjustified repercussions upon all types of opinion and attitude studies and perhaps

upon social science research generally.” The committee concluded that the problem was, in part, quota sampling, but, in any case, the main work of the report was to defend the sample-survey method, including a landmark project founded at the University of Michigan in 1948, which became the most ambitious and most significant survey of American voters: the American National Election Survey.

In 1952, Eisenhower unexpectedly defeated Stevenson. “Yesterday the people surprised the pollsters, the prophets, and many politicians,” Edward R. Murrow said on CBS Radio. “They are mysterious and their motives are not to be measured by mechanical means.” But politicians don’t want the people to be mysterious. Soon, not only political candidates but officeholders—including Presidents—began hiring pollsters. Meanwhile, pollsters claim to measure opinions as elusive as Americans’ belief in God, as the sociologist Robert Wuthnow points out in a compelling and disturbing new book, “Inventing American Religion: Polls, Surveys, and the Tenuous Quest for a Nation’s Faith.” In 1972, when Congress debated a Truth-in-Polling Act, longtime pollsters like Gallup attempted to distance themselves from campaign and media pollsters. Called to testify, Gallup supported the bill, objecting only to the requirement that pollsters report their response rates. That same year, in “Public Opinion Does Not Exist,” the French sociologist Pierre Bourdieu revisited arguments made by Herbert Blumer. As these and other critics have demonstrated again and again, a sizable number of people polled either know nothing about the matters those polls purport to measure or hold no opinion about them. “The first question a pollster should ask,” the sociologist Leo Bogart advised in 1972, is “‘Have you thought about this at all? Do you *have* an opinion?’”

Despite growing evidence of problems known as non-opinion, forced opinion, and exclusion bias, journalists only relied on Gallup-style polling more, not less, and they began, too, to do it themselves. In 1973, in “Precision Journalism,” Philip Meyer urged reporters to conduct their own surveys: “If your newspaper has a data-processing department, then it has key-punch machines and



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people to operate them.” Two years later, the *Times* and CBS released their first joint poll, and we’ve been off to the races ever since, notwithstanding the ongoing concerns raised by critics who point out, as has Gallup Poll’s former managing editor David Moore, that “media polls give us distorted readings of the electoral climate, manufacture a false public consensus on policy issues, and in the process undermine American democracy.” Polls don’t take the pulse of democracy; they raise it.

By the end of August, Trump, faltering, revealed that he is of course obsessed with his standing in the polls. “I won in every single poll of the debate,” he boasted. “I won in *Time* magazine.” Trump’s lead in the polls had taken so many political reporters by surprise that some people who cover polls—“data journalists” is, broadly, the term of art—began turning to data-science firms like Civis Analytics, wondering whether they, too, saw Trump in the lead.

If public-opinion polling is the child of a strained marriage between the press and the academy, data science is the child of a rocky marriage between the academy and Silicon Valley. The term “data science” was coined in 1960, one year after the Democratic National Committee hired Simulmatics Corporation, a company founded by Ithiel de Sola Pool, a political scientist from M.I.T., to provide strategic analysis in advance of the upcoming Presidential election. Pool and his team collected punch cards from pollsters who had archived more than sixty polls from the elections of 1952, 1954, 1956, 1958, and 1960, representing more than a hundred thousand interviews, and fed them into a UNIVAC. They then sorted voters into four hundred and eighty possible types (for example, “Eastern, metropolitan, lower-income, white, Catholic, female Democrat”) and sorted issues into fifty-two clusters (for example, foreign aid). Simulmatics’ first task, completed just before the Democratic National Convention, was a study of “the Negro vote in the North.” Its report, which is thought to have influenced the civil-rights paragraphs added to the Party’s platform, concluded that between 1954 and 1956 “a small but significant shift to the Republicans occurred among Northern Ne-

groes, which cost the Democrats about 1 per cent of the total votes in 8 key states.” After the nominating convention, the D.N.C. commissioned Simulmatics to prepare three more reports, including one that involved running simulations about different ways in which Kennedy might discuss his Catholicism.

In 1964, a political scientist named Eugene Burdick wrote a novel called “The 480,” about the work done by Simulmatics. He was worried about its implications:

There is a benign underworld in American politics. It is not the underworld of cigar-chewing pot-bellied officials who mysteriously run “the machine.” Such men are still around, but their power is waning. They are becoming obsolete though they have not yet learned that fact. The new underworld is made up of innocent and well-intentioned people who work with slide rules and calculating machines and computers which can retain an almost infinite number of bits of information as well as sort, categorize, and reproduce this information at the press of a button. Most of these people are highly educated, many of them are Ph.D.s, and none that I have met have malignant political designs on the American public. They may, however, radically reconstruct the American political system, build a new politics, and even modify revered and venerable American institutions—facts of which they are blissfully innocent. They are technicians and artists; all of them want, desperately, to be scientists.

Burdick’s dystopianism is vintage Cold War: the Strangelovian fear of the machine. (Burdick also co-wrote “Fail Safe,” in which a computer error triggers a nuclear war.) But after 1960 the D.N.C. essentially abandoned computer simulation. One reason may have been that L.B.J. wasn’t as interested in the work of M.I.T. scientists as Kennedy had been. For decades, Republicans were far more likely than Democrats to use computer-based polling. In 1977, the R.N.C. acquired a mainframe computer, while the D.N.C. got its own mainframe in the eighties. The political scientist Kenneth Janda speculates that the technological advantage of the Republican Party during these years stemmed from its ties to big business. Democratic technological advances awaited the personal computer; the R.N.C. is to I.B.M. as the D.N.C. is to Apple. Then came the Internet, which, beginning with the so-called MoveOn effect, favored Democrats but,

as Matthew Hindman argued in “The Myth of Digital Democracy,” has not favored democracy.

Douglas Rivers is a professor of political science at Stanford who is also the chief scientist at YouGov. He started trying to conduct public-opinion surveys via the Internet in the nineties, and has done much of the best and most careful work in the field. When he co-founded Knowledge Networks and conducted polls through Web TV, he used probability sampling as an alternative to quota sampling. The initial response rate was something like fifty per cent, but over time the rate fell into the single digits. Then came the Internet crash. “We slimmed down,” Rivers told me when I visited him in Palo Alto. “I went back to teaching.”

Rivers then started a company called Polimetrix, which he sold to YouGov for an estimated thirty-five million dollars. There he developed a method called “matched sampling”: he uses the U.S. Census Bureau’s American Community Survey, which surveys a million people a year, to generate a random sample according to “fifteen variables of representativeness” and to determine who will participate in polls. “You get a million people to take the poll, but you only need a thousand, so you pick the thousand that match your target population,” he explained to me.

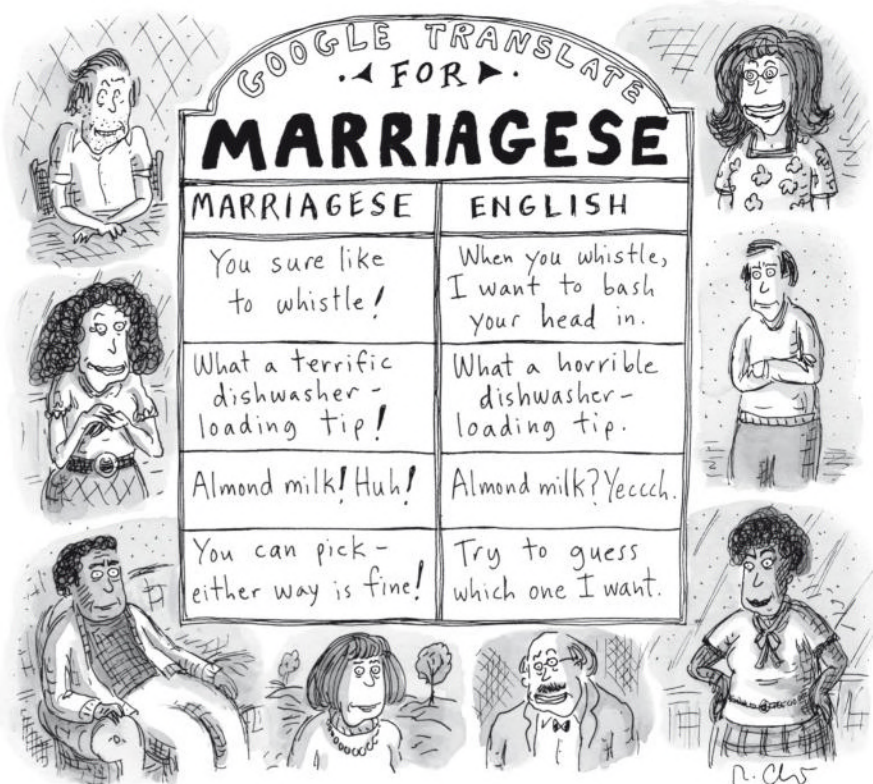
Sometimes when political scientists are hired by corporations their research becomes proprietary. “When I say I don’t know the secret sauce, I really don’t know it,” Arthur Lupia says of political scientists who sell their research to businesses rather than publish it in journals that would require them to reveal their methodologies. Lupia is a professor of political science at the University of Michigan, a former director of the American National Election Survey, and the lead author of “Improving Public Perceptions of Political Science’s Value,” a 2014 report prepared by a task force established by the American Political Science Association. Where once social scientists avidly defended the polling industry, many have grown alarmed that media-run horse-race polls may be undermining the public’s perception of the usefulness of social-science surveys. (Lupia

jokes that horse-race polls ought to have a warning label that reads “For entertainment purposes only.”) Like Rivers, Lupia ardently believes in the importance of measuring public opinion. “It is critical for a nation that cherishes its democratic legitimacy to seek credible measures of how citizens think, feel, and act in electoral contexts,” Lupia and the political scientist Jon Krosnick have written. Otherwise, “there will be no strong evidentiary basis for differentiating propagandistic tall tales from empirically defensible and logically coherent readings of electoral history.”

It’s an important point. But it may be that media-run polls have endangered the academic study of public opinion and of political behavior. Public disaffection with the polling industry has contributed to a plummeting response rate for academic and government surveys.

Those surveys are invaluable, the political scientist Sidney Verba has argued. “Surveys produce just what democracy is supposed to produce—equal representation of all citizens,” Verba said in a presidential address before the American Political Science Association in 1995. “The sample survey is rigorously egalitarian; it is designed so that each citizen has an equal chance to participate and an equal voice when participating.” Verba sees surveying public opinion not only as entirely consistent with democratic theory but as a corrective to democracy’s flaws. Surveys, Verba argues, achieve representativeness through science.

The best and most responsible pollsters, whether Democratic, Republican, or nonpartisan, want nothing so much as reliable results. Today, with a response rate in the single digits, they defend their work by pointing out that the people who do answer the phone are the people who are most likely to vote. Bill McInturff, of Public Opinion Strategies, told me, “The people we have trouble getting are less likely to vote.” But the difficulty remains. Surveying only likely voters might make for a better election prediction, but it means that the reason for measuring public opinion, the entire justification for the endeavor, has been abandoned. Public-opinion polling isn’t enhancing political participation. Instead, it’s a form of disenfranchisement.



“There are all kinds of problems with public-opinion research, as done by surveys,” Lupia admits. “But a lot of the alternatives are worse. A lot of what we’d have would be self-serving stories about what’s good for people. ‘When given a clear choice between eggs and bananas, ninety-eight per cent of the people prefer one or the other.’ Prior to the polls, I can say that, and you have no check on me. But if there’s a poll you have a check.”

That’s a good point, too, except that there isn’t much of a check on political scientists who don’t reveal their methods because they’ve sold their algorithms to startups for millions of dollars. Whether or not they’re making money, people who predict elections want to be right, and they believe, as fiercely as Lupia does, that they are engaged in a public good. I asked Doug Rivers what role the measurement of public opinion plays in a democracy. He said, “The cynical answer is ‘Once the rockets are up, who cares where they come down.’” (He was quoting a Tom Lehrer song.) But Rivers isn’t cynical. He believes that polling “improves the quality of representation.” I asked him to give me an example. He said, “You couldn’t

have had the change in gay marriage without the polling data.” Everyone cares where the rockets come down.

The day I visited Crowdpack, at the back of a one-story office building in Menlo Park, the staff was having a debate about what kind of takeout to order during the G.O.P. debate. “What is G.O.P. food? BBQ?” A piece of computer hardware labelled “Hillary’s Hard Drive: HEAVY USE: Now Perfectly Clean” rested on a coffee table. There were Bernie Sanders posters on the walls and cutouts of Rand Paul’s head popping out of a jar of pencils. Crowdpack is the brainchild of Steve Hilton, a former senior adviser to David Cameron, and Adam Bonica, a young Stanford political scientist. Their idea is to use data science to turn public-opinion polling upside down. “There had been an explosion in the use of data, all structured to advance campaigns,” Bonica says. “They’d take information from voters and manipulate it to the politicians’ advantage. But what if it could go the other way?” The company’s unofficial motto on its Web site used to be “Now you can get the data on them!”

Crowdpack is just getting off the



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ground, but it has provided an interactive Voter's Guide for several federal, state, and citywide elections from Philadelphia to San Francisco and encouraged people to run for office. Liz Jaff, Crowdpc's Democratic political director (she has a Republican counterpart), showed me a beta site she'd set up, whereby visitors who supported Planned Parenthood could look up all the unopposed G.O.P. candidates who have promised to defund Planned Parenthood and then pledge money to anyone who would run against them. The pledges would be converted to donations automatically, as soon as someone decided to run. Candidates could see how much money they would have, right out of the gate, and their opponents could see, too. "If you get a tweet saying you just got five hundred thousand dollars pledged against you, that sends a message," Jaff said.

"We are trying to figure out what drives people to be interested in politics," Hilton told me. "We are working on tools that help people get engaged with particular issues. If you care about fracking—for or against—what should you do? What candidate should you give money to? What people should you urge to run for office? We are uncovering the hidden political wiring of politics."

I asked him if that wasn't the role of the press.

"Maybe once," he said.

Data science may well turn out to be as flawed as public-opinion polling. But a stage in the development of any new tool is to imagine that you've perfected it, in order to ponder its consequences. I asked Hilton to suppose that there existed a flawless tool for measuring public opinion, accurately and instantly, a tool available to voters and politicians alike. Imagine that you're a member of Congress, I said, and you're about to head into the House to vote on an act—let's call it the Smeadwell-Nutley Act. As you do, you use an app called iThePublic to learn the opinions of your constituents. You oppose Smeadwell-Nutley; your constituents are seventy-nine per cent in favor of it. Your constituents will instantly know how you've voted, and many have set up an account with Crowdpc to make automatic campaign donations. If you vote against the proposed legislation, your

constituents will stop giving money to your reelection campaign. If, contrary to your convictions but in line with your iThePublic, you vote for Smeadwell-Nutley, would that be democracy?

A worried look crossed Hilton's face. Lindsay Rogers has long since been forgotten. But the role of public-opinion measurement in a representative government is more troubling than ever.

Hilton shook his head. "You can't solve every problem with more democracy," he said.

To winnow the field of candidates who would hold the main stage in the second G.O.P. debate, in September, CNN had intended to use the average of national polls conducted over the summer. But after Carly Fiorina's campaign complained that the method was unfair CNN changed its formula. The decision had very little to do with American democracy or social science. It had to do with the practice of American journalism. It would make better television if Fiorina was on the same stage as Trump, since he'd made comments about her appearance. ("Look at that face!" he said.)

"No one tells me what to say," Trump had said in August. By September, on the defensive about Fiorina, he insisted—he knew—that he had the will of the people behind him. "If you look at the polls," he said, "a lot of people like the way I talk."

Donald Trump is a creature of the polls. He is his numbers. But he is only a sign of the times. Turning the press into pollsters has made American political culture Trumpian: frantic, volatile, shortsighted, sales-driven, and anti-democratic.

He kept his lead nearly till the end of October. "Do we love these polls?" he called out to a crowd in Iowa. "Somebody said, 'You love polls.' I said that's only because I've been winning every single one of them. Right? Right? Every single poll." Two days later, when he lost his lead in Iowa to Ben Carson, he'd grown doubtful: "I honestly think those polls are wrong." By the week of the third G.O.P. debate, he'd fallen behind in a national CBS/NYT poll. "The thing with these polls, they're all so different," Trump said, mournfully. "It's not very scientific." ♦

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BY ANNABELLE GURWITCH



LinkedIn, the popular social media site for professionals and career opportunists, recently agreed to settle a class-action lawsuit for spamming its users with too many emails.

—*Newsweek*.

Dear Google+,
Not only do I not want to know when someone adds me to his or her circle, I have no idea what Google+ is, what a “circle” is, or why I am being added to one. I finally got the LinkedIn invitations to cease, and now this?

Dear One Kings Lane,

It is with the deepest regret that I inform you that my spouse has requested I recuse myself from your twice-daily flash-sale alerts, after he discovered my purchase of vintage-style nautical-themed textiles in Pebble, Pecan, Talc, Dove, Luna, and Lagoon.

Dear PajamaGram.com,

Thank you for suggesting the ultra-warm heavyweight reindeer-pattern marshmallow-fleece Hoodie-Footie™ pajamas for women, size XXL, monogrammed with my name or my initials. When I throw in the towel on the possibility of any sexual activity, you’ll be the first to know. And, until that time, I’ll pass on the VIPj™ e-mails.

Dear Juliette,

I believe I’ve accidentally migrated onto the mailing list of your real-estate

newsletter. Perhaps my address was included on the Katrina-and-Christy-anniversary-drinks invite that didn’t bcc the guest list? I’ve read that starting the day with laughter boosts the immune system, and when I clicked on the link to view the \$10.7-million, seventeen-thousand-square-foot “magical retreat” that you are hawking, the neighbors could probably hear me cackling from inside my “serene hideaway”—a.k.a. converted garage/laundry-room home office. So, thanks for that. It’s so thoughtful that the listing provides the mileage to local Piloxing studios, raw juicereries, and CoolSculpting centers, but unless you can post the proximity to the pot of gold at the end of the rainbow you should delete my e-mail from your client database.

Dear Daily Kos,

No, thank *you* for all that you do! Although I am retiring my online signature for good, I’m proud to have signed the petition demanding the arrest of Cecil the Lion’s killer, the one demanding his extradition and the revocation of his dental license, the one demanding justice for Cecil, and the one demanding that the White House charge the big-game-hunting dentist with a hate crime. It’s great to know that our voices were heard. Have you considered the Weekly Kos?

Dear Angela Rosenstein,

It’s been forever!

I was so inspired to learn that you’re

heading into the next chapter of your life as a feng-shui master and bodywork practitioner that I’m taking your advice to “create space for stirring up new energy” by unsubscribing from your newsletters. I appreciated you sharing that you use White Sage & Dragon’s Blood Aura Cleansing Mist when you travel, because it clears hotel rooms of lingering spirits; I prefer antibacterial gel myself, but, good to know. I’m relieved to hear that W.S.D.B.A.C.M. isn’t actually made from the blood of a dragon. Phew! Happy trails and namaste.

Hey there, crowdfunding entrepreneurs at Indiegogo,

LMK if you can help me here. I contributed to the campaign to fund “Cinderassic World”—which was described as a sci-fi meditation on what happens when A.I. technology and dinosaur DNA bring Disney princesses to life—after the filmmaker’s mother, my college roommate, sent repeated e-mails. I am now receiving weekly updates. Wasn’t giving money enough? Oh, and I don’t need to get notifications about other campaigns, although “BOY EATS GIRL,” the rom-com about “two zombies who fall in love while fighting over a dead woman’s intestines,” does sound promising.

Dear Bacara Resort & Spa,

I entered my e-mail address into your Web site so that I could check out pictures of the fifty-five-hundred-dollar-a-night room—and it really does look like the perfect place to recover from the flesh wound I sustained when I stabbed myself with a fork as I pored over the amenities list and reviewed every wrong choice I have made in the past fifty-three years.

P.S.: I was delighted to read that a two-night stay includes a grapefruit-scented candle.

P.P.S.: Person whose job it is to read UNSUBSCRIBE e-mails: Do they let you nap on the thousand-thread-count sheets? Is it like sleeping on butter?

Dear Spouse,

Honey, I know your texts don’t have an opt-out clause, but I want you to know that I am aware of how many times you’ve unloaded the dishwasher this week, last week, and in the course of our twenty years of marriage. ♦

ONWARD AND UPWARD WITH THE ARTS

OPERA ON LOCATION

A high-tech work of Wagnerian scale is being staged across Los Angeles.

BY ALEX ROSS

Jonah Levy, a thirty-year-old trumpet player based in Los Angeles, has lately developed a curious weekend routine. On Saturday and Sunday mornings, he puts on a white shirt, a black tie, black pants, and a motorcycle jacket, and heads to the ETO Doors warehouse, in downtown L.A. He takes an elevator to the sixth floor and walks up a flight of stairs

in views that extend from the skyscrapers of downtown to the San Gabriel Mountains. Just after 11 A.M., he receives a message on a walkie-talkie. "The audience is approaching the elevator," a voice says. A minute or so later, figures appear on the roof of the Toy Factory Lofts, about a thousand feet away. Levy launches into a four-minute solo:

six musicians, dancers, and actors participating in "Hopscotch," a "mobile opera" that is running in L.A. until November 22nd. It is the creation of a company called the Industry, which has drawn notice for presenting experimental opera in unconventional spaces. "Hopscotch" is its most ambitious production, and one of the more complicated operatic enterprises to have been attempted since Richard Wagner staged "The Ring of the Nibelung," over four days, in 1876. Audience members ride about in a fleet of limousines, witnessing scenes that take place both inside the vehicles and at designated sites. Three simultaneous routes crisscross eastern and downtown L.A. Six principal composers, six librettists, and a production team of nearly a hun-



Parts of "Hopscotch" are staged inside a fleet of limousines. Other scenes take place on rooftops and in city parks.

to the roof, where a disused water tower rises an additional fifty feet. Levy straps his trumpet case to his back and climbs the tower's spindly, rusty ladder. He wears a safety harness, attaching clamps to the rungs, and uses weight-lifting gloves to avoid cutting his palms. At the top, he warms up on his piccolo trumpet, applies sunscreen, and takes

an extended trill, rat-a-tat patterns, eerie bent notes, mournful flourishes in the key of B-flat minor. On the distant side of the lofts, a trombonist answers him. Then Levy sits down in a folding chair and waits a few minutes, until the walkie-talkie crackles again. He performs this solo twenty-four times each day.

Levy is one of a hundred and twenty-

dred have collaborated on the project, which has a budget of about a million dollars. It is a combination of road trip, architecture tour, contemporary-music festival, and waking dream.

The title "Hopscotch" is borrowed from Julio Cortázar's 1963 magic-realist novel, which invites the reader to navigate the text in nonlinear fashion.

The opera's itineraries also jump around in time, and, because of a system of staggered departure points, each group of limo passengers experiences the work in a different way. Fortunately, the story is simple enough so that you can easily follow what's happening at any given point. It is a modern fable, with overtones of the myth of Orpheus and Eurydice—and with the genders reversed. Lucha, an artist and puppeteer, marries a motorcycle-riding scientist named Jameson, who loses himself in esoteric research and disappears. Lucha hallucinates an encounter with him in the underworld. Unlike Orpheus, she overcomes her grief and finds happiness with Orlando, a fellow-puppeteer. In the Toy Factory Lofts scene, called "Farewell from the Rooftops," Lucha achieves resolution. Jonah Levy is a fading image of the missing husband, his sombre costume identical to one worn by performers portraying Jameson elsewhere.

"Rooftops," which has music by Ellen Reid and a text by Mandy Kahn, lasts about ten minutes. Upon arriving at the Toy Factory Lofts, you are greeted by Marja Kay, the singer playing Lucha in the scene, and by a violist. "I set you free, Jameson," Kay sings, though restless viola patterns indicate lingering tension. (Nineteen women embody Lucha in the course of the opera, each wearing a yellow dress.) By the time you reach the roof, two French-horn players and a violinist have joined the group. Outside, you experience a thrilling expansion of visual and acoustic space: the ensemble mingles with the ambient rumble of traffic and helicopters. Kay points to the ETO Doors building, and Levy enters the fray, his music suggesting fanfares being pulled apart and blown away by the wind. Kay points in the opposite direction, cueing the trombone. Eventually, she bids farewell to the Jameson figures and descends the elevator in a buoyant mood. "I feel my powers now," she sings. "This city is orchestral—I lift its baton."

The phrase is an apt motto for "Hopscotch." Scenes unfold on the steps of City Hall, in Chinatown Central Plaza, in Evergreen Cemetery, and at the Bradbury Building, the Gilded Age structure whose darkly opulent iron-and-marble atrium appears in "Blade Runner" and

many other films. The topography ranges from the verdant summit of Elysian Park to the bleak concrete channel of the Los Angeles River.

The limo scenes are quieter, more intimate. You might be joined by a pensive, flute-playing Lucha or by guitarists who evoke the character's Mexican background. At one decisive moment, though, the exterior world rushes in. You find yourself riding with the actor-playwright Peter Howard, who is portraying a real-estate developer. While musing on gentrification, he lowers a window and addresses a black-clad motorcyclist who is riding alongside the limo. "Hey, your tail-light is out!" he yells. "It's dangerous!" The motorcyclist yells back, his voice carried to the limo's speakers through a wireless mike: "You know what's *really* dangerous? Distracting a motorcyclist when he's on the road." The biker, performed virtuosically by Stephen Beitler, is another Jameson figure; he and the developer argue as you clutch the armrests. This is the rare opera that asks you to sign a legal waiver before the show begins.

The mastermind of this spectacle is the opera director Yuval Sharon, a thirty-six-year-old Chicago native, who moved to L.A. in 2010 and founded the Industry that year. He realizes that his current project, which took more than two years to pull together, could be seen as a daft undertaking. He told me, "An opera with a nonsequential plot that depends on cars arriving on time in L.A.? We've created a monster, but it's alive." He closed his eyes and gave an antic laugh.

Trim and curly-haired, and dressed habitually in jeans, a T-shirt, and a vintage Le Tigre track jacket, Sharon looks like a hip counsellor at a summer arts camp—albeit one who reveres Wagner and names Brecht's "The Life of Galileo" as his favorite play. (He plans to stage it on the beach in Santa Monica, beside a bonfire.) Tirelessly upbeat, he has a knack for charming his way through bureaucratic tangles. "Hopscotch" entailed conversations with the Department of Transportation, California Parks and Recreation, and the Army Corps of Engineers, not to mention the Toy Factory Lofts Homeowners Association. He persuaded city officials to have potholes

paved over so that musicians would have a smoother ride. He has also had, so far, a fair amount of luck. Road closures and tieups have been minimal. El Niño, which is likely to bring drenching rains to L.A., has yet to arrive in earnest. No film crews have commandeered the Bradbury Building. And, the day before I attended a rehearsal, in mid-October, the Dodgers had lost to the Mets in the National League playoffs.

"I've never followed sports so closely in all my life!" Sharon said, laughing again. "My dad took me to games when I was young—I didn't get it." If the Dodgers had reached the World Series, they would have played at home on Halloween, the day that "Hopscotch" opened, and the opera's routes would have been mired in traffic.

We were at the Los Angeles River site, a former Union Pacific staging ground called the Bowtie Parcel, now an art park. The performers were rehearsing "Hades," the scene in which Lucha imagines Jameson in the underworld. "This is going to be the River Styx," Sharon told me, looking down at the gray-green stream, which flowed past scattered rocks and masses of vegetation. More than twenty people milled about, among them the venerable experimental composer David Rosenboom, who is the dean of the school of music at the California Institute of the Arts. For "Hades," he had composed a punchy, angular, R. & B.-inflected score, using an ensemble of three trumpeters and three percussionists. "Make it more rhythmically precise—more James Brown," he said to the musicians.

Sharon and his team had found a ready-made seating area: a folly-like enclosure at the top of the embankment, constructed from rusted steel frames. He told three singers portraying Styxian women to surround the structure. "Reach through the gaps in the frames," he said. "Icy fingers, grasping." He turned to the bass-baritone Patrick Blackwell, who was playing the Boatman of the Styx, and said, "Reach out your arms to make yourself look taller—tower over us." Rebekah Barton, who was this scene's Lucha, practiced throwing a knotted rope down to Nicholas LaGesse, the Jameson, who was by the river. Sharon voiced Jameson's feelings: "A rope out of

Hell? Can this be? You should be doubting, unsure."

The director lowered himself to the riverbed to confer with LaGessee, who was holding a battered suitcase containing a speaker that was supposed to transmit his voice to the audience above. "It's kind of muffled," Sharon said. "What if we drilled holes in it?" The show's production designer, Jason H. Thompson—who gave Sharon the idea for an opera partly set in cars—began perforating the suitcase. The percussionists tried out sounds, running drumsticks along a barbed-wire fence. Barton practiced throwing the Boatman's oar. Ash Nichols, the production manager, and Casey Kringlen, the assistant director, spoke with the limo driver, who was doubtful about navigating a narrow, bumpy access road. Twenty-six drivers, all from Wilshire Limousine Services, were rehearsing as carefully as the musicians.

By the time I saw "Hades" in performance, it had become a tightly structured episode. The Boatman wore a white suit and a gold *lucha libre* mask, and the river women wove around him in flowing black costumes. The percussionists and the trumpeters were outfitted with gray suits and sunglasses, like members of Hell's marching band. The problem of the access road had been solved: the driver, Bob Gezalyan, now commanded a Jeep, which handled the bumps and troughs with ease. Barton stood in the back of the vehicle, singing into the onrushing air, "How do I start over again?" A man fishing on the river whistled as we sped by. The scene is brief but intense, like the kind of dream one has after hitting the snooze button.

Sharon's father, an Israeli nuclear engineer named Ariel Sharon, failed to interest his son in sports, but he did instill a love for opera. In the seventies, Ariel studied at Northwestern University, and he eventually settled in Chicago with his wife, Mali, a high-school social worker. "My dad took me to see Wagner's 'Siegfried' at the Chicago Lyric Opera when I was thirteen," Yuval said, at a café in Echo Park, near where he lives. "I remember enjoying the first two acts, with the sword and the dragon, but the

third act was horrific—a man and a woman screaming at each other about love. Now that's my favorite part of the 'Ring.' My dad got into Wagner in the course of travelling to Germany for work. Talking about Wagner is sort of the German equivalent of golfing." Ariel Sharon died in 2011, just before his son began to develop a reputation as an opera director. Yuval strongly felt his father's absence last year, when he directed a heralded stag-



ing of John Adams's "Doctor Atomic" in Karlsruhe.

Sharon attended the University of California at Berkeley, studying literature and dramatic arts, and he was contemplating a career in film when he happened to see Alban Berg's "Wozzeck," in San Francisco. "I'd studied the work beforehand and was prepared for this amazing, visceral, powerful experience, and it was so lame and so flat," he said. "I looked around at the audience and thought, Nobody cares. They're just relieved that it's going to be short. I realized that it was the production, not the age of the piece or the nature of its language, that was keeping the gates closed. And I wondered, What would happen if you treated this as actual theatre?"

After graduating, in 2001, Sharon served as an assistant on several productions in Germany and Austria. In 2003, he took a job at New York City Opera, and later ran its new-opera workshop, VOX. In 2009, the L.A. Opera invited Sharon to assist the German director Achim Freyer, a Brecht protégé, on a staging of the "Ring"—a bold and costly undertaking, dominated by giant puppet figures, that left many operagoers baffled. Sharon, though, felt that the response was warmer than it might have been elsewhere, not least at the Met. He let go of Hollywood-centered images of L.A. and set about exploring the city's chaotically intersecting cultures. Fasci-

nated by the great European emigration to Southern California in the period of the Second World War, he made a pilgrimage to the Villa Aurora, the former home of the novelist Lion Feuchtwanger, where Brecht socialized alongside Charles Laughton and Charlie Chaplin.

"There was a deliberate irony in calling our company the Industry," Sharon said. "It's an alternate version of the local reality." From the start, the company's productions stood out for their daunting complexity. First came a staging of Anne LeBaron's "Crescent City," a phantasmagoric story of post-Katrina New Orleans. Within a cavernous warehouse, audiences chose their own paths among multiple stages. In 2013, the Industry presented Christopher Cerrone's "Invisible Cities," an adaptation of the Italo Calvino novel in which Union Station became the stage: performers made their way around unsuspecting commuters as audience members listened on wireless headphones.

This kind of thing has, of course, been done before. Sharon cites, as models, the happenings of Allan Kaprow and the Situationism of Guy Debord, who devised wayward city tours in search of the "liberation of everyday life." The Industry's productions also owe much to the site-specific theatre of recent decades, such as the Punchdrunk company's "Sleep No More," in which theatregoers roam multistory spaces. There have been taxi plays, elevator plays, subway plays. And there have been site-specific operas, though nothing on the scale of "Hopscotch."

"Some people wonder why we're still calling this opera," Sharon told me. "They say, 'Why not just ditch that word, since it's your biggest baggage?' People hear it and think inaccessible. But people need to realize that what we're doing is an extension of this very old layering of word and music and image. We may be pretty far from Mozart and Verdi, but we're certainly connected to the avant-garde tradition of Cage and Partch and Stockhausen." At the Birmingham Opera, in 2012, Sharon served as an associate director for Graham Vick's grandly surreal production of Stockhausen's "Mittwoch aus Licht," which requires a string quartet to fly in helicopters.

"And, yes, there's a little bit of the

Wagnerian *Gesamtkunstwerk*,” Sharon went on, wincing at the word, which drops clunkily into so many discussions of unconventional theatre. “The inspiration from that tradition is: instead of being cautious, instead of taking on some idea for a new opera that’s been cooked up by a marketing roundtable, let’s make it bigger, gutsier, more audacious, more borderline impossible.” In rehearsals, he quoted a slogan associated with the artist Banksy: “It’s not art unless it has the potential to be a disaster.”

“Hopscotch” is, beyond everything else, a feat of logistical planning. The three routes for the audience are labelled Red, Yellow, and Green; each lasts ninety minutes and is given three times a day. Viewers circulate according to an ingenious scheme that Sharon and Elizabeth Cline, the Industry’s executive director, worked out one night with an array of toy cars bought at a Little Tokyo market. Cline told me, “Like every element of ‘Hopscotch,’ we figured it out through conversation, testing, discovery, iterating.” The audience for a given route is divided into eight groups of four, half moving clockwise and half moving counterclockwise. Performers repeat their scenes as groups rotate in and out; the limos shuttle back and forth, trading passengers with the next car in the chain. Most viewers go on only one route; in theory, you could see all three in succession, but it would be an all too Wagnerian experience.

Sharon and his team arranged the scenes so that the viewer is in a state of perpetual transition. One moment, you’re cooped up in a limo with blacked-out windows, listening in claustrophobically close quarters; the next, you’re in a wide-open landscape, sound cascading from all directions. Each route has at least one awe-inspiring moment of emergence. On the Red Route, it is “Rooftops”; on the Green Route, it is “Hades.” The tour de force of the Yellow Route takes place in the Bradbury Building. It is another of Lucha’s hallucinations, one in which she pictures Jameson with a Lady in Red. Veronika Krausas, an Australian-born, Canadian-raised composer who teaches at U.S.C., pays homage to the building’s cinematic associations with a seductively noirish, jazz-tinged score, including a violent drum improvisation and seething

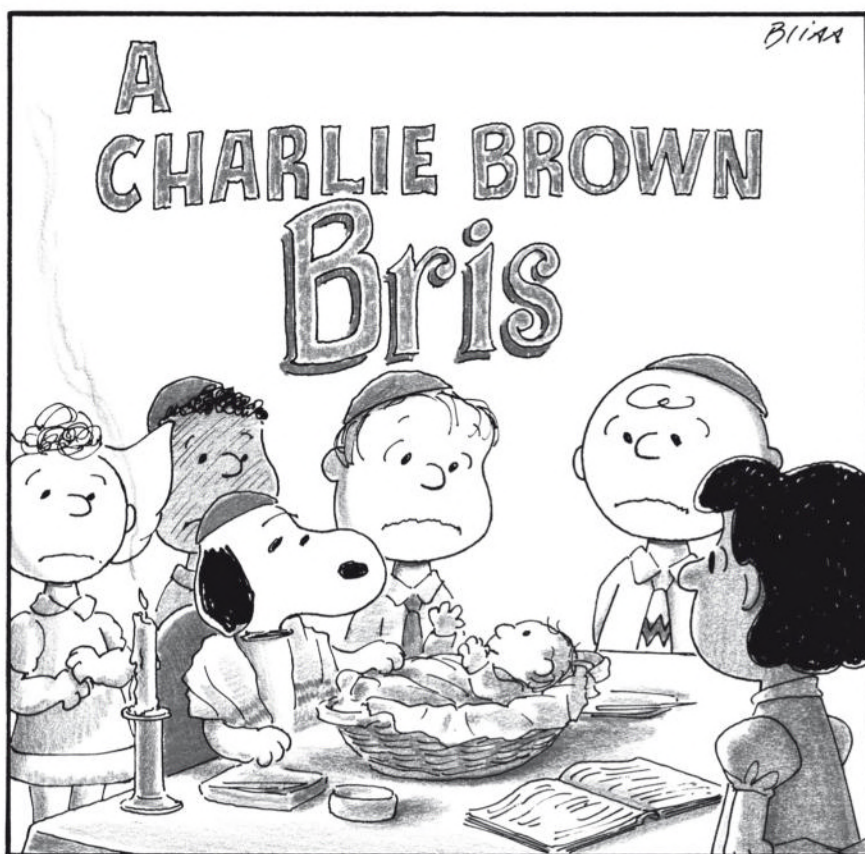
lines for an ambulatory saxophone. You ride the Bradbury’s open-cage elevator to the top level of the atrium, whereupon Lucha—here portrayed by the Iranian-born coloratura soprano Delaram Kamareh—makes her way down five stories of stairs. Dancers from a local company, Ate9, dart up and down, fleshing out the surreal image. Toward the end, a sensuous guitar song floats through the reverberant space.

Repeatedly, the staged action merges with the life of the city. Tourists who have been admitted to the Bradbury’s ground floor gaze up at the cryptic doings above, filming the performers on their mobile phones. Customers at Burgerlords, in Chinatown, attempt to digest what they are seeing as they nibble on their fries. During a scene set in Hollenbeck Park, a young woman who had just been married, in a flamboyant purple dress, wandered into the background, seeming at first glance to be an extra. Sometimes, though, a bystander turns out to be a player in the drama: at Hollenbeck Park, a man at an ice-cream cart turns into a percussionist. The composer Marc Lowenstein, who wrote a raptly lyrical score for that episode and also

served as the production’s music director, commented, “Everything that happens is part of the scene.”

You always return to the limo, gazing through tinted glass. There “Hopscotch” takes on a more melancholy, alienated tone, as the music becomes the soundtrack to whatever you glimpse through the window: gasping joggers, barking businesspeople, homeless people pushing grocery carts, gleaming boutiques, a toilet inexplicably shattered on the side of the road. By design, you feel uneasy as you move around the city in vehicles associated with fame and wealth. Getting in and out, you are gawked at, until people realize that you are not famous.

“This piece is basically in love with L.A., but we didn’t want it to be all rainbows and Disneyland,” Sharon told me. “We don’t want to hide the darkness of the city—the way people can, yes, disappear. And we want to include a sense of the isolation of driving—the emotional distance it can create. The plot aside, the piece is really a story about life in cars. What we’ve done is remove the sense of a destination—the tunnel vision that takes hold when you’re trying to get



somewhere. That completely transforms your experience of the street. All these new perceptions flood your system."

Before "Hopscotch" rehearsals began, I drove to El Sereno, east of downtown, to visit Andrew Norman, another of the six composers who created the main part of the score. All are based in Southern California, but only Norman grew up in the state. His father, an evangelical minister, led a church in Modesto; one of Norman's early musical experiences was playing keyboards in a church youth band. At the age of thirty-six, he has become much in demand for his furiously churning, finely structured orchestral pieces. For "Hopscotch," Norman had been asked to compose the Finale, which was to unfold at a central location called the Hub. At the end of each performance day, the limos would converge there, and musicians would emerge to perform together live.

Norman, who is blond and pale and given to wearing flannel shirts, composes in a converted garage next to the house that he shares with his partner, Alex Birkhold. A worktable was strewn with pieces in progress: he was in the middle of sketching the piano part of "Split," a concerto that Jeffrey Kahane and the New York Philharmonic will introduce in December. "My process involves a lot

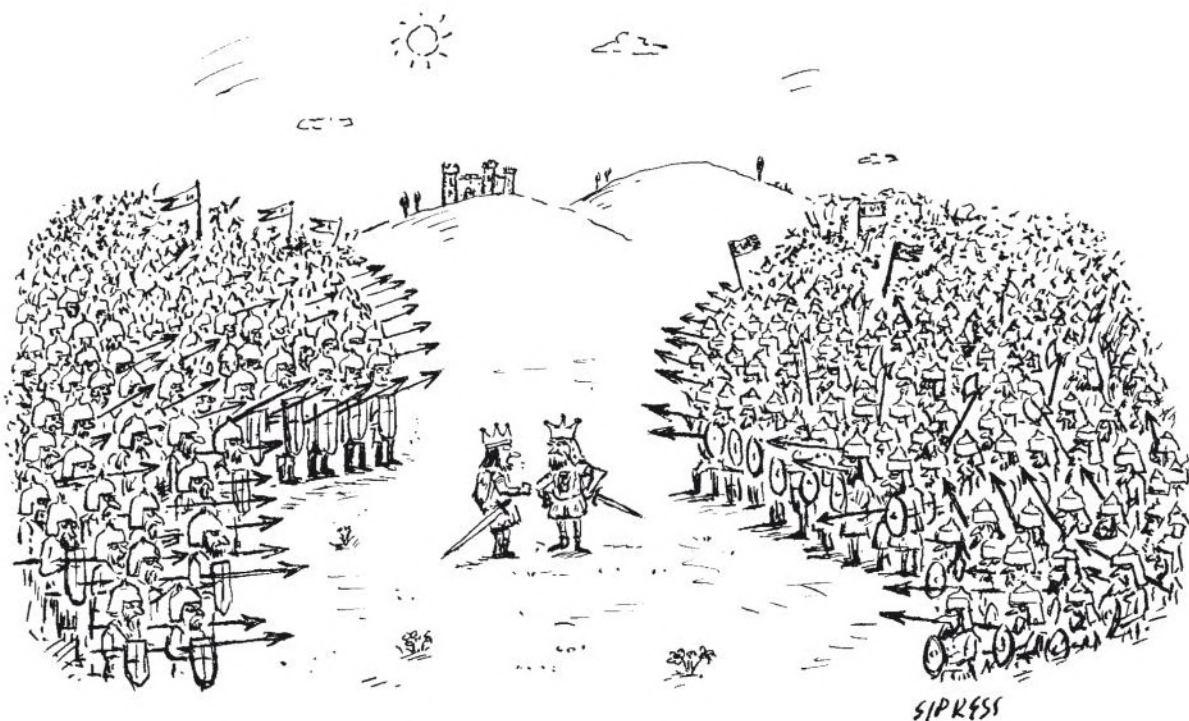
of nail-biting," Norman told me. "I get spells of writer's block, and there are periods where I sketch gobs of material that doesn't cohere, and then, if all goes well, at the last possible second it all kind of—" He made a plosive sound and crunched his hands together. The works themselves often follow the same progression: atomized figures swirl about in a state of near-anarchy and then coalesce into solid, soaring forms.

Norman grinned in relief when he opened up a "Hopscotch" file on his computer. In place of the precise demands that accompany a major orchestral commission, the assignment here was almost absurdly open-ended. "Usually, I'm told, 'Twenty-two minutes, same instrumentation as a Mozart concerto,'" Norman explained. "In this case, the duration depends on traffic. Yuval has been driving around, trying to see how long it will take for every limousine to get to the Hub. He says that it might last anywhere from seven to twenty minutes. Also, it has to be simple enough that performers of various musical backgrounds can memorize it." Norman had decided to base the entire Finale on a scale of G major. As in Terry Riley's minimalist masterpiece "In C," modular melodies would harmonize with one another even as they traced separate paths.

The "Hopscotch" composers had to

be comfortable with uncertainty. Ellen Reid, a native of Oak Ridge, Tennessee, who moved to L.A. in 2009 to study at CalArts, told me, "You're always trying to hit a literally moving target. Each piece has to be both coherent on its own terms and also flexible enough to fit shifting conditions, and you don't even know in advance what kind of flexibility will be required. At the last minute, a location or a route changes, and everything is different." In rehearsals of "Rooftops," Reid found that the sustained tones and trills she had written for Jonah Levy were getting lost in the rumbling soundscape, so she encouraged him to add figuration that scampered up and down in register.

Sharon sought a range of styles, not omitting the city's sizable musical underground. Andrew McIntosh, a thirty-year-old composer and a Baroque violinist who grew up in a small town on the edge of the Nevada desert, is one of a number of L.A. musicians who pay heed to the twentieth-century avant-garde, resisting stereotypes of the city as a domain of movie-score bombast. McIntosh co-owns a new-music label with the ironic name Populist Records; his first solo album is titled "Hyenas in the Temples of Pleasure." He was assigned a crucial pair of scenes in which Lucha and Jameson consummate their love and are married. In other hands, this



"On the other hand, we could join forces and attack the media."

material might have elicited lyrical effusions; McIntosh's spare, rarefied sonorities, which tilt away from traditional tunings, give an air of mythic otherness. His music for a quartet of saxophones has been wafting out from Angel's Point, in Elysian Park, and settling over the city like an invisible mist.

Some of the "Hopscotch" previews had wobbly moments; limos ran late, scenes were curtailed. By opening day, though, the routes were operating smoothly. As at a theme-park ride, one audience would emerge from a limo and another would step in seconds later. Sharon spent most of the day at the Hub, which occupies a corner of the parking lot at the Southern California Institute of Architecture, in the Arts District. Here, as if things weren't tricky enough, a new feature was being added: twenty-four video screens had been set up, each, in theory, carrying a live feed from a "Hopscotch" scene. The images came from audience members who had been handed mobile-phone cameras. Using technology provided by the Sennheiser company, visitors to the Hub could connect to audio channels and listen on headphones.

On the first day, many of the feeds had technical problems. The signal from the "Rooftops" scene cut out every time the party entered the elevator, and so a tape of a preview ran instead. (The second day went better.) But the Bradbury Building was broadcasting without interruption, and its performers were in high spirits. Kamareh threw herself exuberantly about the space and embellished her coloratura runs with whoops and shrieks. "I could almost tell them to rein it a little, but I won't," Sharon commented. "It's out of my hands now—all these scenes have taken on a life of their own." The audience cinematographers were adding their own touches. Some dutifully followed the principals; others indulged in panning shots, closeups, and other filmic gestures. One person seemed concerned mainly with keeping a handsome companion in the frame. Repeatedly, there was an abrupt pan down to a pair of feet. Having handled a camera in one of the previews, I recognized this as the moment when the excited documentarian realizes that if he doesn't watch his step he could plunge down the stairs.



"I'm worried I didn't bring the right bag."

The on-site performances ended at four-thirty, and the limos began collecting at the Hub. They pulled up one by one, in lanes on either side of the audience. As passengers emerged, they resembled arrivals at a Hollywood red-carpet event, except that the celebrities here were emissaries from the "Hopscotch" realm. Various Luchas stepped out, including the singer-songwriter Michelle Shocked, who, on the Yellow Route, evoked Lucha's final happiness. Jamesons and Orlandos also mingled. All were singing or speaking phrases on the theme of mundane daily tasks: "Still needing to go to the market, to change the sheets, to do the dishes, to feed the cat." Thus began Andrew Norman's Finale. For a while, modular fragments swirled in a pleasant haze, but once all the limos had arrived a stronger compositional mechanism took over, moving toward a culminating idea: a pattern of intervals contracting on both ends, from a tenth to an octave to a sixth to a fourth to a second. The figure enacts in musical terms the idea of finding a center. Norman has supplied a gentle, mystical ending for a work that, amid its many moments of pure elation, is as disorienting and disquieting as the world in which it moves.

At a party after the opening, I found Jonah Levy, the trumpeter on the tower. He is a genial, regular-guy avant-gardist,

a devotee of Stockhausen who once did a stint in a cruise-line show band. "I feel like the musical equivalent of a sniper," he said. "Waiting on the top of a building until the 'Go' sign, then just laying down some freakishly fun and complex contemporary opera, and then disappearing."

The metaphor captures the brazenness of "Hopscotch": its way of impinging on daily life in an organized citywide assault. Many passersby react to the opera with a momentary perplexity that seems to fade as they walk on. Others become curious and ask questions. By the end of the run, thousands of Angelenos will have joined the piece's accidental audience, which may turn out to be the more important one. Whatever the reaction, "Hopscotch" triumphantly escapes the genteel, fenced-off zone where opera is supposed to reside.

Ellen Reid came over to congratulate Levy on surviving another marathon and to marvel that the entire improbable scheme had come to pass. "The thing about Yuval is that he's created his own reality," Levy said. "He's kind of our Walt Disney." Levy left the party early in order to drive to Long Beach, where he had a gig playing in the pit band for a production of "My Fair Lady." The next day, he was back on his tower, an assassin of the ordinary. ♦

THE GENE HACKERS

A powerful new technology enables us to manipulate our DNA more easily than ever before.

BY MICHAEL SPECTER

At thirty-four, Feng Zhang is the youngest member of the core faculty at the Broad Institute of Harvard and M.I.T. He is also among the most accomplished. In 1999, while still a high-school student, in Des Moines, Zhang found a structural protein capable of preventing retroviruses like H.I.V. from infecting human cells. The project earned him third place in the Intel Science Talent Search, and he applied the fifty thousand dollars in prize money toward tuition at Harvard, where he studied chemistry and physics. By the time he received his doctorate, from Stanford, in 2009, he had shifted gears, helping to create optogenetics, a powerful new discipline that enables scientists to use light to study the behavior of individual neurons.

Zhang decided to become a biological engineer, forging tools to repair the broken genes that are responsible for many of humanity's most intractable afflictions. The following year, he returned to Harvard, as a member of the Society of Fellows, and became the first scientist to use a modular set of proteins, called TALEs, to control the genes of a mammal. "Imagine being able to manipulate a specific region of DNA . . . almost as easily as correcting a typo," one molecular biologist wrote, referring to TALEs, which stands for transcription activator-like effectors. He concluded that although such an advance "will probably never happen," the new technology was as close as scientists might get.

Having already helped assemble two critical constituents of the genetic toolbox used in thousands of labs throughout the world, Zhang was invited, at the age of twenty-nine, to create his own research team at the Broad. One day soon after his arrival, he attended a meeting during which one of his col-

leagues mentioned that he had encountered a curious region of DNA in some bacteria he had been studying. He referred to it as a CRISPR sequence.

"I had never heard that word," Zhang told me recently as we sat in his office, which looks out across the Charles River and Beacon Hill. Zhang has a perfectly round face, its shape accentuated by rectangular wire-rimmed glasses and a bowl cut. "So I went to Google just to see what was there," he said. Zhang read every paper he could; five years later, he still seemed surprised by what he found. CRISPR, he learned, was a strange cluster of DNA sequences that could recognize invading viruses, deploy a special enzyme to chop them into pieces, and use the viral shards that remained to form a rudimentary immune system. The sequences, identical strings of nucleotides that could be read the same way backward and forward, looked like Morse code, a series of dashes punctuated by an occasional dot. The system had an awkward name—clustered regularly interspaced short palindromic repeats—but a memorable acronym.

CRISPR has two components. The first is essentially a cellular scalpel that cuts DNA. The other consists of RNA, the molecule most often used to transmit biological information throughout the genome. It serves as a guide, leading the scalpel on a search past thousands of genes until it finds and fixes itself to the precise string of nucleotides it needs to cut. It has been clear at least since Louis Pasteur did some of his earliest experiments into the germ theory of disease, in the nineteenth century, that the immune systems of humans and other vertebrates are capable of adapting to new threats. But few scientists had considered the possibility that single bacterial cells

could defend themselves in the same way. The day after Zhang heard about CRISPR, he flew to Florida for a genetics conference. Rather than attend the meetings, however, he stayed in his hotel room and kept Googling. "I just sat there reading every paper on CRISPR I could find," he said. "The more I read, the harder it was to contain my excitement."

It didn't take Zhang or other scientists long to realize that, if nature could turn these molecules into the genetic equivalent of a global positioning system, so could we. Researchers soon learned how to create synthetic versions of the RNA guides and program them to deliver their cargo to virtually any cell. Once the enzyme locks onto the matching DNA sequence, it can cut and paste nucleotides with the precision we have come to expect from the search-and-replace function of a word processor. "This was a finding of mind-boggling importance," Zhang told me. "And it set off a cascade of experiments that have transformed genetic research."

With CRISPR, scientists can change, delete, and replace genes in any animal, including us. Working mostly with mice, researchers have already deployed the tool to correct the genetic errors responsible for sickle-cell anemia, muscular dystrophy, and the fundamental defect associated with cystic fibrosis. One group has replaced a mutation that causes cataracts; another has destroyed receptors that H.I.V. uses to infiltrate our immune system.

The potential impact of CRISPR on the biosphere is equally profound. Last year, by deleting all three copies of a single wheat gene, a team led by the Chinese geneticist Gao Caixia created a strain that is fully resistant to powdery mildew, one of the world's



CRISPR's unprecedented ability to edit genetic code will make possible a new generation of medical treatments.

most pervasive blights. In September, Japanese scientists used the technique to prolong the life of tomatoes by turning off genes that control how quickly they ripen. Agricultural researchers hope that such an approach to enhancing crops will prove far less controversial than using genetically modified organisms, a process that requires technicians to introduce foreign DNA into the genes of many of the foods we eat.

The technology has also made it possible to study complicated illnesses in an entirely new way. A few well-known disorders, such as Huntington's disease and sickle-cell anemia, are caused by defects in a single gene. But most devastating illnesses, among them diabetes, autism, Alzheimer's, and cancer, are almost always the result of a constantly shifting dynamic that can include hundreds of genes. The best way to understand those connections has been to test them in animal models, a process of trial and error that can take years. CRISPR promises to make that process easier, more accurate, and exponentially faster.

Inevitably, the technology will also permit scientists to correct genetic flaws in human embryos. Any such change, though, would infiltrate the entire genome and eventually be passed down to children, grandchildren, great-grandchildren, and every subsequent generation. That raises the possibility, more realistically than ever before, that scientists will be able to rewrite the fundamental code of life, with consequences for future generations that we may never be able to anticipate. Vague fears of a dystopian world, full of manufactured humans, long ago became a standard part of any debate about scientific progress. Yet not since J. Robert Oppenheimer realized that the atomic bomb he built to protect the world might actually destroy it have the scientists responsible for a discovery been so leery of using it.

For much of the past century, biology has been consumed with three essential questions: What does each gene do? How do we find the genetic mutations that make us sick? And how can we overcome them? With CRISPR,

the answers have become attainable, and we are closing in on a sort of grand unified theory of genetics. "I am not sure what a Golden Age looks like," Winston Yan, a member of Zhang's research team, told me one day when I was with him in the lab, "but I think we are in one."

At least since 1953, when James Watson and Francis Crick characterized the helical structure of DNA, the central project of biology has been the effort to understand how the shifting arrangement of four compounds—adenine, guanine, cytosine, and thymine—determines the ways in which humans differ from each other and from everything else alive. CRISPR is not the first system to help scientists pursue that goal, but it is the first that anyone with basic skills and a few hundred dollars' worth of equipment can use.

"CRISPR is the Model T of genetics," Hank Greely told me when I visited him recently, at Stanford Law School, where he is a professor and the director of the Center for Law and the Biosciences. "The Model T wasn't the first car, but it changed the way we drive, work, and live. CRISPR has made a difficult process cheap and reliable. It's incredibly precise. But an important part of the history of molecular biology is the history of editing genes."

Scientists took the first serious step toward controlling our genes in the early nineteen-seventies, when they learned to cut chains of DNA by using proteins called restriction enzymes. Suddenly, genes from organisms that would never have been able to mate in nature could be combined in the laboratory. But those initial tools were more hatchet than scalpel, and, because they could recognize only short stretches within the vast universe of the human genome, the editing was rarely precise. (Imagine searching through all of Shakespeare for Hamlet's soliloquy on suicide, relying solely on the phrase "to be." You'd find the passage, but only after landing on several hundred unrelated citations.)

When the first draft of the Human



"My wife? And a bicycle?"

Genome Project was published, in 2001, the results were expected to transform our understanding of life. In fundamental ways, they have; the map has helped researchers locate thousands of genes associated with particular illnesses, including hundreds that cause specific types of cancer. To understand the role that those genes play in the evolution of a disease, however, and repair them, scientists need to turn genes on and off systematically and in many combinations. Until recently, though, altering even a single gene took months or years of work.

That began to change with the growing use of zinc fingers, a set of molecular tools that, like CRISPR clusters, were discovered by accident. In 1985, scientists studying the genetic code of the African clawed frog noticed a finger-shaped protein wrapped around its DNA. They soon figured out how to combine that tenacious grip with an enzyme that could cut the DNA like a knife. Two decades later, geneticists began using TALEs, which are made up of proteins secreted by bacteria. But both engineering methods are expensive and cumbersome. Even Zhang, who published the first report on using TALEs to alter the genes of mammals, realized that the system was little more than an interim measure. "It is difficult to use," he told me. "I had to assign a graduate student just to make the proteins and test them before I could begin to use them in an experiment. The procedure was not easy."

Zhang's obsession with science began in middle school, when his mother prodded him to attend a Saturday-morning class in molecular biology. "I was thirteen and had no idea what molecular biology was," he said one evening as we walked across the M.I.T. campus on the way to the fiftieth-anniversary celebration of the Department of Brain and Cognitive Sciences, where Zhang is also a faculty member. "It really opened my imagination." His parents, both engineers, moved the family to Iowa when he was eleven. They stayed largely because they thought he would get a better education in the United States than in China.

In 1997, when Zhang was fifteen, he was offered an internship in a biosafety facility at the Des Moines Human Gene Therapy Research Institute—but he was told that federal law prohibited him from working in a secure lab until he was sixteen. "So I had to wait," he said. On his birthday, Zhang went to the lab and met the scientists. "I was assigned to a man who had a Ph.D. in chemistry but trained as a molecular biologist," he continued. "He had a lot of passion for science, and he had a very big impact on me and my research." On his first day, Zhang spent five hours in the lab, and nearly as much time every day after school until he graduated.

Zhang is unusually reserved, and he speaks in low, almost sleepy tones. I asked him if he considered himself to be mellow, a characteristic rarely associated with prize-winning molecular biologists. "You came to the lab meeting, right?" he replied. Earlier that morning, I had caught the tail end of a weekly meeting that Zhang holds for his group. I watched as he gently but relentlessly demolished a presentation given by one of the people on his team. When I mentioned it to one of the scientists who was at the meeting, he responded, "That was nothing. You should have been there from the start."

At his Saturday-morning classes, Zhang learned how to extract DNA from cells and determine the length of each sequence. But that isn't what he remembers best. "They showed us 'Jurassic Park,'" he said, his voice moving up a register. "And it was amazing to me. The teacher explained the different scientific concepts in the movie, and they all seemed completely feasible."

We had reached the cocktail party, a tepid affair crowded with men in khakis and women wearing sensible shoes. Zhang left after barely twenty minutes and headed back to the lab. He retains his position on the cognitive-sciences faculty, because he hopes that his research will help neuroscientists study the brain in greater detail. He told me

that when he was young he had a friend who suffered from serious depression, and he had been surprised to find that there was almost no treatment available. It spurred a lasting interest in psychiatry. "People think you are weak if you are depressed," he said. "It is still a common prejudice. But many people suffer from problems we cannot begin to address. The brain is still

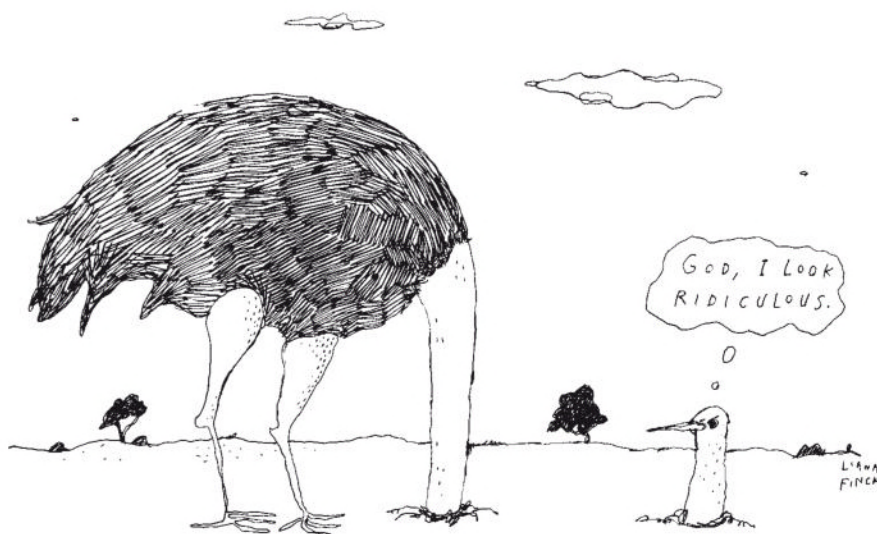
the place in the universe with the most unanswered questions."

The Broad Institute was founded, in 2003, by the entrepreneur Eli Broad and his wife, Edythe, to foster research into the molecular components of life and their

connections to disease. One afternoon in Zhang's laboratory, Winston Yan offered to walk me through the mechanics of using CRISPR to edit a gene. "We need to be able to break DNA in a very precise place in the genome," he said as I watched him at work. He swivelled in his chair and pointed to a row of vials that contained DNA samples to be analyzed and edited. Yan, a thin, bespectacled man, wore black laboratory gloves and a white Apple Watch; he clapped his hands and shrugged, as if to suggest that the work was simple.

Ordering the genetic parts required to tailor DNA isn't as easy as buying a pair of shoes from Zappos, but it seems to be headed in that direction. Yan turned on the computer at his lab station and navigated to an order form for a company called Integrated DNA Technologies, which synthesizes biological parts. "It takes orders online, so if I want a particular sequence I can have it here in a day or two," he said. That is not unusual. Researchers can now order online almost any biological component, including DNA, RNA, and the chemicals necessary to use them. One can buy the parts required to assemble a working version of the polio virus (it's been done) or genes that, when put together properly, can make feces smell like wintergreen. In Cambridge, I.D.T. often makes same-day deliveries. Another organization, Addgene, was





established, more than a decade ago, as a nonprofit repository that houses tens of thousands of ready-made sequences, including nearly every guide used to edit genes with CRISPR. When researchers at the Broad, and at many other institutions, create a new guide, they typically donate a copy to Addgene.

The RNA that CRISPR relies upon to guide the molecular scalpel to its target is made of twenty base pairs. Humans have twenty thousand genes, and twenty base pairs occupy roughly the same percentage of space in a single gene as would one person standing in a circle that contained the entire population of the United States. CRISPR is better at locating specific genes than any other system, but it isn't perfect, and sometimes it cuts the wrong target. Yan would order a ready-made probe from Addgene. When it arrives, he pairs it with a cutting enzyme and sends it to the designated gene.

Yan joined Zhang's lab just before what he described as "the CRISPR craze" began. But, he added, the technology has already transformed the field. "For many years, there was a reductionist approach to genetics," he said. "A kind of wishful thinking: 'We will find the gene that causes cancer or the gene that makes you prone to heart disease.' It is almost never that simple."

The next morning, I walked over to the Broad's new Stanley Building and rode the elevator to the top floor, where I emptied my pockets, put on a mask and gown, and slipped booties

over my shoes. Then I passed through an air chamber that was sealed with special gaskets and had a fan blowing continuously to keep out foreign microbes. I entered the vivarium, a long, clean floor that looked like a combination of research unit and hospital ward. The vivarium, which opened last year, provides thousands of mice with some of the world's most carefully monitored accommodations.

Despite our growing knowledge of the way that cancer develops in human cells, mutations can't be studied effectively in a petri dish, and, since the late nineteen-eighties, genetically modified mice have served as the standard proxy. What cures (or kills) a mouse won't necessarily have the same effect on a human, but the mouse genome is surprisingly similar to our own, and the animals are cheap and easy to maintain. Like humans, and many other mammals, mice develop complex diseases that affect the immune system and the brain. They get cancer, atherosclerosis, hypertension, and diabetes, among other chronic illnesses. Mice also reproduce every three weeks, which allows researchers to follow several generations at once. Typically, technicians would remove a stem cell from the mouse, then edit it in a lab to produce a particular gene or to prevent the gene from working properly. After putting the stem cell back into the developing embryo of the mouse, and waiting for it to multiply, they can study the gene's effect on the animal's development.

The process works well, but it generally allows for the study of only one characteristic in one gene at a time.

The vivarium at the Broad houses an entirely different kind of mouse, one that carries the protein Cas9 (which stands for CRISPR-associated nuclease) in every cell. Cas9, the part of the CRISPR system that acts like a genetic scalpel, is an enzyme. When scientists originally began editing DNA with CRISPR, they had to inject both the Cas9 enzyme and the probe required to guide it. A year ago, Randall Platt, another member of Zhang's team, realized that it would be possible to cut the CRISPR system in two. He implanted the surgical enzyme into a mouse embryo, which made it a part of the animal's permanent genome. Every time a cell divided, the Cas9 enzyme would go with it. In other words, he and his colleagues created a mouse that was easy to edit. Last year, they published a study explaining their methodology, and since then Platt has shared the technique with more than a thousand laboratories around the world.

The "Cas9 mouse" has become the first essential tool in the emerging CRISPR arsenal. With the enzyme that acts as molecular scissors already present in every cell, scientists no longer have to fit it onto an RNA guide. They can dispatch many probes at once and simply make mutations in the genes they want to study.

To demonstrate a potential application for cancer research, the team used the Cas9 mouse to model lung adenocarcinoma, the most common form of lung cancer. Previously, scientists working with animal models had to modify one gene at a time or cross-breed animals to produce a colony with the needed genetic modifications. Both processes were challenging and time-consuming. "Now we can activate CRISPR directly in the cells we're interested in studying, and modify the genome in whatever way we want," Platt said, as he showed me around the vivarium. We entered a small exam room with a commanding view of Cambridge. I watched as a technician placed a Cas9 mouse in a harness inside a biological safety cabinet. Then, peering through a Leica microscope, she used a fine capillary needle

to inject a single cell into the mouse's tail.

"And now we have our model," Platt said, explaining that the mouse had just received an injection that carried three probes, each of which was programmed to carry a mutation that scientists believe is associated with lung cancer. "The cells will carry as many mutations as we want to study. That really is a revolutionary development."

"In the past, this would have taken the field a decade, and would have required a consortium," Platt said. "With CRISPR, it took me four months to do it by myself." In September, Zhang published a report, in the journal *Cell*, describing yet another CRISPR protein, called Cpf1, that is smaller and easier to program than Cas9.

The lab employs a similar approach to studying autism. Recent experiments suggest that certain psychiatric conditions can be caused by just a few malfunctioning neurons out of the trillions in every brain. Studying the way neurons function within the brain is difficult. But by re-creating, in the lab, genetic mutations that others have linked to autism and schizophrenia Zhang's team has been able to investigate faulty neurons that may play a role in those conditions.

As the price of sequencing plunges, cancer clinics throughout the United States have begun to study their patients' tumors in greater detail. Tumors are almost never uniform; one may have five mutations or fifty, which means, essentially, that every cancer is a specific, personal disease. Until CRISPR became available, the wide genetic variations in cancer cells often made it hard to develop effective treatments.

"What I love most about the CRISPR process is that you can take any cancer-cell line, knock out every gene, and identify every one of the cell's Achilles' heels," Eric Lander, the fifty-eight-year-old director of the Broad, told me recently. Lander, who was among the leaders of the Human Genome Project, said that he had never encountered a more promising research tool. "You can also use CRISPR to systematically study the ways that a cancer cell can escape from a treatment," he said. "That should make it possible to build a

comprehensive road map for cancer."

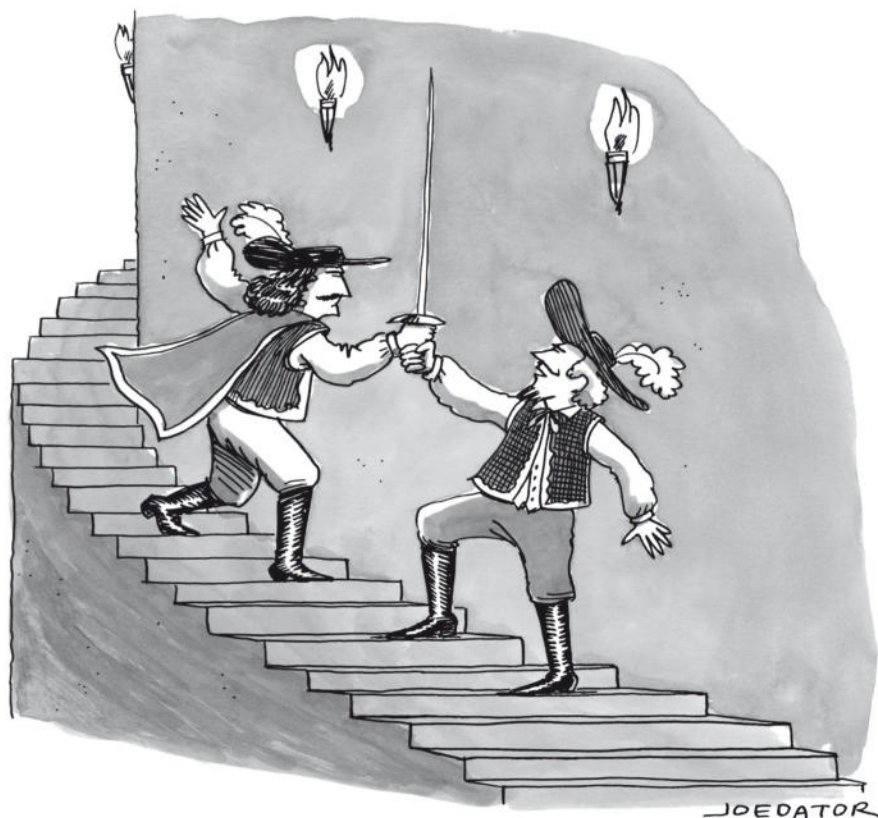
Lander went on to say that each vulnerability of a tumor might be attacked by a single drug. But cancer cells elude drugs in many ways, and, to succeed, a therapy may need to block them all. That strategy has proved effective for infectious diseases like AIDS. "Remember the pessimism about H.I.V.," he said, referring to the early years of the AIDS epidemic, when a diagnosis was essentially a death sentence. Eventually, virologists developed a series of drugs that interfere with the virus's ability to replicate. The therapy became truly successful, however, only when those drugs, working together, could block the virus completely.

The same approach has proved successful in treating tuberculosis. Lander is convinced that it will also work for many cancers: "With triple-drug therapy," for H.I.V., "we reached an inflection point: we were losing badly, and one day suddenly we were winning."

He stood up and walked across the office toward his desk, then pointed at the wall and described his vision for the future of cancer treatment. "There will be an enormous chart," he said.

"Well, it will be electronic, and it will contain the therapeutic road map of every trick that cancer cells have—how they form, all the ways you can defeat them, and all the ways they can escape and defeat a treatment. And when we have that we win. Because every cancer cell starts naïve. It doesn't know what we have waiting in the freezer for it. Infectious diseases are a different story; they share their knowledge as they spread. They learn from us as they move from person to person. But every person's cancer starts naïve. And this is why we will beat it."

Developing any technology as complex and widely used as CRISPR invariably involves contributions from many scientists. Patent fights over claims of discovery and licensing rights are common. Zhang, the Broad Institute, and M.I.T. are now embroiled in such a dispute with Jennifer Doudna and the University of California; she is a professor of chemistry and of molecular biology at Berkeley. By 2012, Doudna, along with Emmanuelle Charpentier, a medical microbiologist who studies



"We're never going to resolve this if you won't get your own sword."

pathogens at the Helmholtz Centre for Infection Research, in Germany, and their lab teams, demonstrated, for the first time, that CRISPR could edit purified DNA. Their paper was published that June. In January of 2013, though, Zhang and George Church, a professor of genetics at both Harvard Medical School and M.I.T., published the first studies demonstrating that CRISPR could be used to edit human cells. Today, patents are generally awarded to the first people to file—in this case, Doudna and Charpentier. But Zhang and the Broad argued that the earlier success with CRISPR had no bearing on whether the technique would work in the complex organisms that matter most to scientists looking for ways to treat and prevent diseases.

Zhang was awarded the patent, but the University of California has requested an official reassessment, and a ruling has not yet been issued. Both he and Doudna described the suit to me as “a distraction” that they wished would go away. Both pledged to release all intellectual property to researchers without charge (and they have). But both are also involved in new companies that intend to develop CRISPR technology as therapies, as do many pharmaceutical firms and other profit-seeking enterprises.

CRISPR research is becoming big business: venture-capital firms are competing with one another to invest millions, and any patent holder would have the right to impose licensing fees. Whoever wins stands to make a fortune. Other achievements are also at stake, possibly including a Nobel Prize. (Doudna’s supporters have described her as America’s next female Nobel Prize winner, and at times the publicity war seems a bit like the battles waged by movie studios during Academy Award season.) Last year, the National Science Foundation presented Zhang with its most prestigious award, saying that his fundamental research “moves us in the direction” of eliminating schizophrenia, autism, and other brain disorders.



A few months later, Doudna and Charpentier received three million dollars each for the Breakthrough Prize, awarded each year for scientific achievement. The prize was established, in 2012, by several Silicon Valley billionaires who are seeking to make science a more attractive career path. The two women also appeared on *Time*’s annual list of the world’s hundred most influential people.

In fact, neither group was involved in the earliest identification of CRISPR or in the first studies to demonstrate how it works. In December, 1987, biologists at the Research Institute of Microbial Diseases, in Osaka, Japan, published the DNA sequence of a gene taken from the common intestinal bacterium *E. coli*. Those were early days in the genomic era, and thousands of labs around the world had embarked on similar attempts to map the genes of species ranging from fruit flies to humans. In an effort to better understand how this particular gene functioned, the Japanese scientists also sequenced some of the DNA that surrounded it. When they examined the data, they were surprised to see cellular structures that none of them recognized: they had no idea what to make of the strange phenomenon, but they took note of it, writing in the final sentence of their report, published in the *Journal of Bacteriology*, that the “biological significance of these sequences is not known.”

The mystery remained until 2005, when Francisco Mojica, a microbiologist at the University of Alicante, who had long sought to understand CRISPR, decided to compare its DNA with the DNA of tens of thousands of similar organisms. What he saw amazed him: every unknown sequence turned out to be a fragment of DNA from an invading virus.

The pace of research quickened. In 2007, Rodolphe Barrangou and Philippe Horvath, microbiologists then working for Danisco, the Danish food company, had noticed that some of its yogurt cultures were routinely destroyed by viruses and others were not. They

decided to find out why. The scientists infected the microbe *Streptococcus thermophilus*, which is widely used to make yogurt, with two viruses. Most of the bacteria died, but those which survived had one property in common: they all contained CRISPR molecules to defend them.

“No single person discovers things anymore,” George Church told me when we met in his office at Harvard Medical School. “The whole patent battle is silly. There has been much research. And if anybody should be making a fuss about this I should be making a fuss. But I am not doing that, because I don’t think it matters. They are all nice people. They are all doing important work. It’s a tempest in a teapot.”

From the moment that manipulating genes became possible, many people, including some of those involved in the experiments, were horrified by the idea of scientists in lab coats rearranging the basic elements of life. In 1974, David Baltimore, the pioneering molecular biologist, who was then at M.I.T., and Paul Berg, of Stanford, both of whom went on to win a Nobel Prize for their research into the fundamentals of viral genetics, called for a moratorium on gene-editing research until scientists could develop safety principles for handling organisms that contained recombinant DNA. That meeting, which took place in 1975, at a conference center in Asilomar, California, has come to be regarded as biotechnology’s Constitutional Convention.

Roughly a hundred and fifty participants, most of them scientists, gathered to discuss ways to limit the risks of accidentally releasing genetically modified organisms. At the time, the possibility of creating “designer babies”—a prospect that, no matter how unlikely, is attached to almost everything written or said about CRISPR—was too remote to consider. Nevertheless, the technology seemed frightening. In Cambridge, home to both M.I.T. and Harvard, the city council nearly banned such research altogether. The work went on, but decoding sequences of DNA wasn’t easy. “In 1974, thirty base pairs”—thirty rungs on the

CHORUS

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—*Danniel Schoonebeek*

helical ladder of the six billion nucleotides that make up our DNA—"was a good year's work," George Church told me. Now the same work would take seconds.

At least for the foreseeable future, CRISPR's greatest impact will lie in its ability to help scientists rapidly rewrite the genomes of animal and plant species. In laboratories, agricultural companies have already begun to use CRISPR to edit soybeans, rice, and potatoes in an effort to make them more nutritious and more resistant to drought. Scientists might even be able to edit allergens out of foods like peanuts.

Normally, it takes years for genetic changes to spread through a population. That is because, during sexual reproduction, each of the two versions of any gene has only a fifty per cent chance of being inherited. But a "gene drive"—which is named for its ability to propel genes through populations over many generations—manages to override the traditional rules of genetics. A mutation made by CRISPR

on one chromosome can copy itself in every generation, so that nearly all descendants would inherit the change. A mutation engineered into a mosquito that would block the parasite responsible for malaria, for instance, could be driven through a large population of mosquitoes within a year or two. If the mutation reduced the number of eggs produced by that mosquito, the population could be wiped out, along with any malaria parasites it carried.

Kevin Esvelt, an evolutionary biologist at Harvard, was the first to demonstrate how gene drives and CRISPR could combine to alter the traits of wild populations. Recently, he has begun to study the possibility of using the technology to eliminate Lyme disease by rewriting the genes of mice in the wild. Lyme disease is caused by a bacterium and transmitted by ticks, and more than eighty-five per cent of the time they become infected after biting a mouse. Once exposed, however, some mice naturally acquire resistance or immunity. "My idea is to take the existing

genes that confer resistance to Lyme and make sure that all mice have the most effective version," Esvelt said. To do that, scientists could encode the most protective genes next to the CRISPR system and force them to be passed on together. Esvelt stressed that such an approach would become possible only after much more research and a lengthy series of public discussions on the risks and benefits of the process.

The promise of CRISPR research becomes more evident almost every month. Recently, Church reported that he had edited sixty-two genes simultaneously in a pig cell. The technique, if it proves accurate and easy to repeat, could help alleviate the constant shortage of organ donors in the U.S. For years, scientists have tried to find a way to use pig organs for transplants, but a pig's DNA is filled with retroviruses that have been shown in labs to infect human cells. Church and his colleagues discovered that those viruses share a common genetic sequence. He deployed CRISPR to their exact locations and snipped them out of the genome. In the most successful of the experiments, the CRISPR system deleted all sixty-two of the retroviruses embedded in the pig's DNA. Church then mixed those edited cells with human cells in the laboratory, and none became infected.

While CRISPR will clearly make it possible to alter our DNA, serious risks remain. Jennifer Doudna has been among the most vocal of those calling for caution on what she sees as the inevitable march toward editing human genes. "It's going to happen," she told me the first time we met, in her office at Berkeley. "As a research tool, CRISPR could hardly be more valuable—but we are far from the day when it should be used in a clinical setting." Doudna was a principal author of a letter published in *Science* this spring calling for a temporary research moratorium. She and others have organized a conference to discuss the ethics of editing DNA, a sort of Asilomar redux. The conference, to be attended by more than two hundred scientists—from the U.S., England, and China, among other countries—will take place

ILL-ADVISED "SESAME STREET" PARODIES



during the first week of December at the National Academy of Sciences, in Washington.

Until April, the ethical debate over the uses of CRISPR technology in humans was largely theoretical. Then a group at Sun Yat-sen University, in southern China, attempted to repair, in eighty-six human embryos, the gene responsible for beta thalassemia, a rare but often fatal blood disorder. If those disease genes, and genes that cause conditions like cystic fibrosis, could be modified successfully in a fertilized egg, the alteration could not only protect a single individual but eventually eliminate the malady from that person's hereditary lineage. Given enough time, the changes would affect all of humanity. The response to the experiment was largely one of fear and outrage. The *Times* carried the story under the headline "CHINESE SCIENTISTS EDIT

GENES OF HUMAN EMBRYOS, RAISING CONCERNS."

Critics called the experiment irresponsible and suggested that the scientists had violated an established code of conduct. "This paper demonstrates the enormous safety risks that any such attempt would entail, and underlines the urgency of working to forestall other such efforts," Marcy Darnovsky, of the Center for Genetics and Society, told National Public Radio when the report was published. "The social dangers of creating genetically modified human beings cannot be overstated."

There seems to be little disagreement about that. But the Chinese researchers were not trying to create genetically modified humans. They were testing the process, and every CRISPR researcher I spoke to considered the experiment to have been well planned

and carried out with extraordinary care. The scientists also agreed that the results were illuminating. "That was an ethical paper, and a highly responsible project," Lander told me. "What did they do? They took triploid zygotes"—a relatively common genetic aberration—"from I.V.F. clinics. They deliberately chose those because they knew no human could ever develop from them. And what did the paper say? 'Boy, we see problems everywhere.' That was good science, and it was cautionary."

Fewer than half the embryos were edited successfully, and, of those, most retained none of the new DNA that was inserted into the genes. The experiment, which was published in the Beijing-based journal *Protein & Cell*, demonstrated clearly that the day when scientists could safely edit humans is far off. The CRISPR system also made unintended cuts and substitutions, the potential effects of which are unknown. In other cases, it made the right changes in some cells of the embryo but not in all of them, which could cause other problems. "These authors did a very good job, pointing out the challenges," Dieter Egli, a stem-cell researcher at Columbia University, said when the study was published. "They say themselves that this type of technology is not ready for any kind of application."

Doudna agreed that the Chinese experiment yielded valuable results. She is fifty-one, and has been at Berkeley since 2002, when she and her husband, the biochemist Jamie Cate, were offered joint appointments to the departments of chemistry and molecular and cell biology. Their offices are next to each other, with the same commanding view of San Francisco Bay and the Golden Gate Bridge. Doudna's work, unlike that of the scientists at the Broad, has been focussed on molecules, not mammalian genetics. For years, she has been leading investigations into the shape, structure, and capabilities of RNA, and in 2011 Charpentier asked for her help in exploring the mechanism of CRISPR. Doudna is tall, with graying blond hair and piercing blue eyes. She grew up in Hawaii, where her parents were academics; when it was time for college, she decided to leave the island and

study in California, at Pomona. She earned her doctorate at Harvard and then moved on to Yale. “I have always been a bit of a restless soul,” she said. “I may spend too much time wondering what comes next.”

Doudna is a highly regarded biochemist, but she told me that not long ago she considered attending medical school or perhaps going into business. She said that she wanted to have an effect on the world and had begun to fear that the impact of her laboratory research might be limited. The promise of her work on CRISPR, however, has persuaded her to remain in the lab. She told me that she was constantly amazed by its potential, but when I asked if she had ever wondered whether the powerful new tool might do more harm than good she looked uncomfortable. “I lie in bed almost every night and ask myself that question,” she said. “When I’m ninety, will I look back and be glad about what we have accomplished with this technology? Or will I wish I’d never discovered how it works?”

Her eyes narrowed, and she lowered her voice almost to a whisper. “I have never said this in public, but it will show you where my psyche is,” she said. “I had a dream recently, and in my dream”—she mentioned the name of a leading scientific researcher—“had come to see me and said, ‘I have somebody very powerful with me who I want you to meet, and I want you to explain to him how this technology functions.’ So I said, Sure, who is it? It was Adolf Hitler. I was really horrified, but I went into a room and there was Hitler. He had a pig face and I could only see him from behind and he was taking notes and he said, ‘I want to understand the uses and implications of this amazing technology.’ I woke up in a cold sweat. And that dream has haunted me from that day. Because suppose somebody like Hitler had access to this—we can only imagine the kind of horrible uses he could put it to.”

Nobody is going to employ CRISPR technology to design a baby, let alone transform the genetic profile of humanity, anytime soon. Even if scientists become capable of editing human embryos, it would take years for

the genetically modified baby to grow old enough to reproduce—and then many generations for the alteration to disseminate throughout the population.

But there are long-term consequences to consider. Modern medicine already shapes our genome, by preserving genes that might otherwise have been edited out of our genome by natural selection. Today, millions of people suffer from myopia, and many of them are legally blind. Were it not for the invention of glasses, which have turned poor eyesight largely into a nuisance rather than an existential threat, the genes responsible for myopia might be less prevalent than they are today. The same could be said about many infectious diseases, and even chronic conditions like diabetes.

Humans also carry genes that protect us from one disease but increase our susceptibility to others, and it’s impossible to predict the impact of changing all or even most of them. The AIDS virus often enters our blood cells through a protein called CCR5. One particular genetic variant of that protein, called the Delta32 mutation, prevents H.I.V. from locking onto the cell. If every person carried that mutation, nobody would get AIDS. So why not introduce that mutation into the human genome? Several research teams are working to develop drugs that do that in people who have already been infected.

Yet it’s important to note that, while such a procedure would prevent H.I.V. infection, it would also elevate our susceptibility to West Nile virus. Today, that trade-off may seem worth the risk, but there’s no way of knowing whether it would be true seven or ten generations from now. For example, sickle cells, which cause anemia, evolved as a protection against malaria; the shape of the cell blocks the spread of the parasite. If CRISPR technology had been available two hundred thousand years ago, it might have seemed sensible to edit sickle cells into the entire human population. But the results would have been devastating.

“This is a little bit like geoengineering,” Zhang told me, referring to attempts to deliberately alter the climate to offset damages associated with global warming. “Once you go down that path, it may not be so reversible.”

George Church disagrees. “It strikes

me as a fake argument to say that something is irreversible,” he told me. “There are tons of technologies that are irreversible. But genetics is not one of them. In my lab, we make mutations all the time and then we change them back. Eleven generations from now, if we alter something and it doesn’t work properly we will simply fix it.”

In 1997, Scottish scientists shocked the world by announcing that they had cloned a lamb, which they named Dolly. Scores of journalists (including me) descended on Edinburgh, and wrote that the achievement, while wondrous, also carried the ominous implication that scientists had finally pried open Pandora’s box. Many articles about cloning and the value of human life were published. Evil people and dictators would clone themselves, their children, their pets. A new class of humans would arise.

Eighteen years later, the closest we have come to cloning a person was a failed attempt at a monkey, in 2007. Nobody spends much time worrying about it today. In Cambridge this summer, one of the researchers at the Broad told me that he and Louise Brown, the first success of in-vitro fertilization, were both born in 1978. “Did that set off an uproar?” he asked. It did. Even seven years earlier, James Watson had written, in *The Atlantic*, that the coming era of designer babies might overwhelm us all. Today, though, with more than five million children on earth born through in-vitro fertilization, that particular furor, too, seems to have passed.

CRISPR technology offers a new outlet for the inchoate fear of tinkering with the fundamentals of life. There are many valid reasons to worry. But it is essential to assess both the risks and the benefits of any new technology. Most people would consider it dangerous to fundamentally alter the human gene pool to treat a disease like AIDS if we could cure it with medicine or a vaccine. But risks always depend on the potential result. If CRISPR helps unravel the mysteries of autism, contributes to a cure for a form of cancer, or makes it easier for farmers to grow more nutritious food while reducing environmental damage, the fears, like the many others before them, will almost certainly disappear. ♦

THE INVISIBLE LIBRARY

Can digital technology make the Herculaneum scrolls legible after two thousand years?

BY JOHN SEABROOK

It was a warm day in Paris, and the library of the Institut de France was stuffy and hot. Daniel Delattre, a distinguished French papyrologist, did not remove his suit jacket. The institute, which includes the Académie Française, is a jacket-and-tie sort of place.

Delattre, who is sixty-eight years old and has a dreamy, lost-in-the-vale-of-academe manner, was contemplating a small wooden box on the table in front of him which was labelled “Objet Un.” There are thousands of rare objects in the institute’s library; the fact that whatever was inside the box was Object One suggested that it was of some importance. An ornately hand-lettered card was taped to the outside. It said, in French, “Box containing the remains of papyrus from Herculaneum”—the Roman town destroyed, along with its larger neighbor, Pompeii, in the eruption of Mt. Vesuvius in A.D. 79.

The papyrus scrolls of Herculaneum, which were discovered in 1752, have long fascinated and frustrated lovers of antiquity. They were found in an elaborate villa buried almost ninety feet deep by the volcano—this archeological wonder has been known ever since as the Villa dei Papiri. At least eight hundred scrolls were uncovered; they constitute the only sizable library from the ancient world known to have survived intact. Some were found stacked on shelves in a small room; others were elsewhere in the villa, packed in *capsae*, travelling boxes for the scrolls, presumably in preparation for flight.

Given the splendor of the villa, and the masterly bronze sculptures found in its ruins, the learned world assumed that the library would contain vanished classics. One could dare hope for one or two of the lost histories of Livy, of whose hundred and forty-two books on the history of Rome only thirty-five survive. Or perhaps one of the nine volumes of verse written by Sappho, the Greek poet;

only one complete poem remains. By some estimates, ninety-nine per cent of ancient Greek literature has been lost, and Latin has not fared much better. Among those works we know are missing are Aristotle’s second volume of the *Poetics*, which was on comedy; Gorgias’ philosophical work “On Non-Existence”; the four missing books of the Roman historian Tacitus’ *Annals*, covering Caligula’s reign and the beginning of Claudius; Ovid’s version of “*Medea*”; and Suetonius on the Greek athletic games. (His “*Lives of Famous Whores*” also, sadly, has not survived.) Greek tragedy has been decimated. According to the *Suda*, the tenth-century Byzantine encyclopedia of classical culture, Euripides wrote as many as ninety-two plays; eighteen survive. We have seven each from Aeschylus and Sophocles, who wrote about ninety and a hundred and twenty, respectively. “And that’s just the big three of tragedy,” the writer and classics professor Daniel Mendelsohn told me. “Of the thousand that were likely written and performed during the hundred-year heyday of tragedy, we have only thirty-three extant plays—that’s about a three-per-cent survival rate.”

Delattre’s dream has been to recover something of the lost works of Epicurus (341–270 B.C.), the Greek philosopher whose thought has been the focus of his life’s study, and whose writings are known only through secondary sources.

“Basically, whatever your specialty is, that’s what you want to find in the scrolls,” David Sider, a professor of classics at N.Y.U. and the author of “The Library of the Villa dei Papiri at Herculaneum” (2005), told me.

But that’s the problem. In trying to read the scrolls, scholars and curators have invariably damaged or destroyed them. The Herculaneum papyri survived only because all the moisture was seared out of them—uncharred papyrus scrolls in non-desert climates have long since

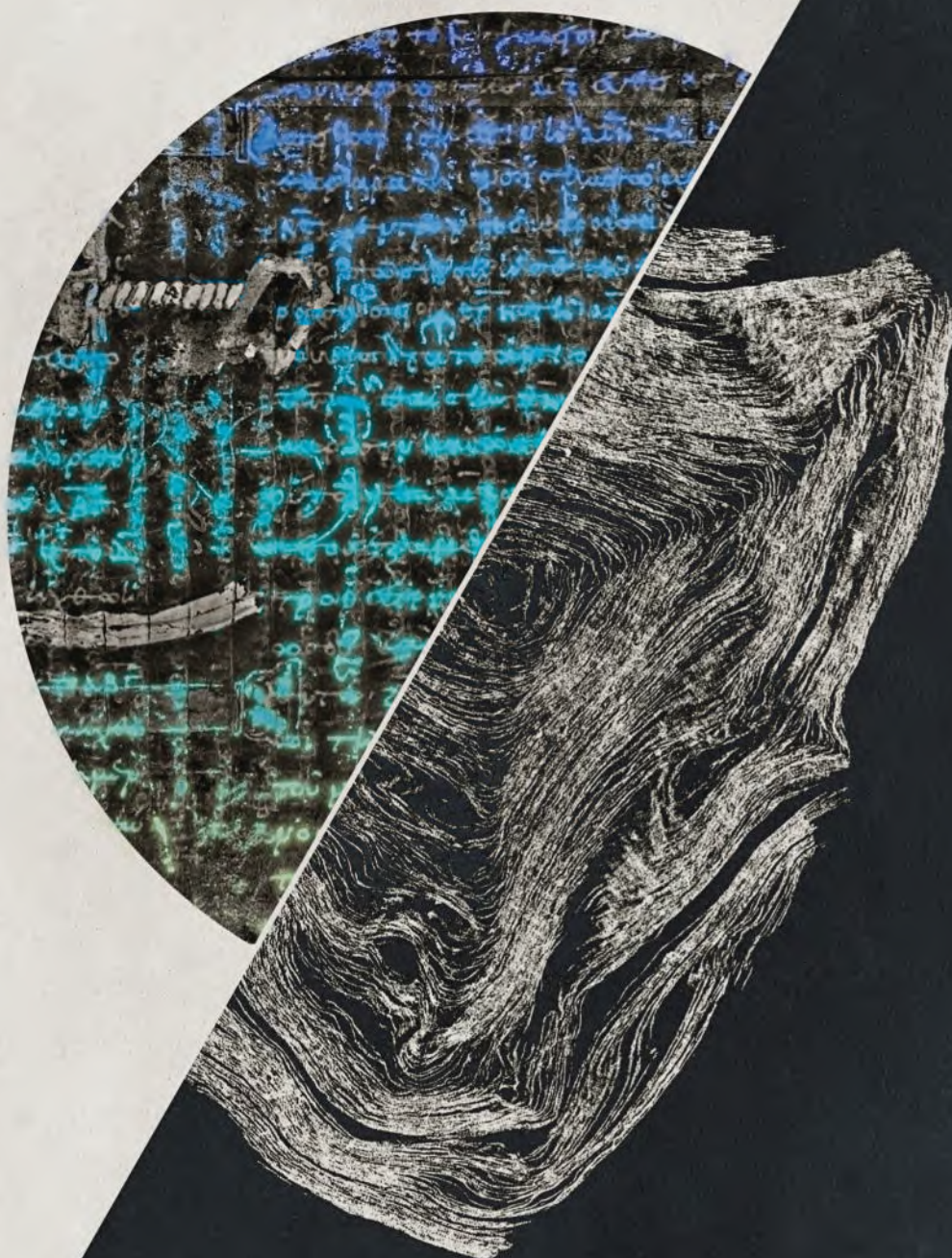
rotted away. In each scroll, the tightly wrapped layers of the fibrous pith of the papyrus plant are welded together, like a burrito left in the back seat of a car for two thousand years. But, because the sheets are so dry, when they are unfurled they risk crumbling into dust.

During the past two hundred and fifty years, an array of methods and materials have been used on the easier-to-unwrap scrolls, including rose water, mercury, “vegetable gas,” sulfuric compounds, and papyrus juice—most of which have caused grievous harm to the delicate plant material on which the text is inscribed. Scores of scrolls have been badly damaged or destroyed, ruined by the same uniquely human impulse that went into making them—the desire to read.

Before addressing *Objet Un*, Delattre opened another box, containing pieces of two scrolls (the institute has six altogether) that had suffered a misguided attempt to read them in 1985. There were hundreds of fragments, organized within a set of smaller boxes. They resembled scraps of dried mud. But if you looked closely you could see tiny Greek letters on the warped surfaces, made by a scribe two thousand years ago—an electrifying jolt of handwritten human communication from the ancient world.

Delattre explained that the two ill-fated scrolls had been transported to Naples, where they were treated with a mixture of ethanol, glycerin, and warm water, which was supposed to loosen the folds. One scroll was peeled apart into many fragments; the other dried up and then, like a disaster in slow motion, split apart into more than three hundred pieces. “Well,” Delattre murmured, “it simply exploded.” He shook his head sadly.

How did the institute come by six scrolls in the first place? Delattre explained that, by 1800, the Herculaneum scrolls had become instruments of diplomatic and political power. In 1802, Ferdinand, the Bourbon king of Naples



Left: Multispectral imaging reveals erased ancient writing. Right: A cross-section of a carbonized scroll from Herculaneum.

and Sicily, “gave” six of the scrolls to Napoleon, who was threatening to invade Naples. Napoleon housed them in the Institut de France, which he reorganized in 1803 into what would later become the five academies that form the institute today. The collection grew around the scrolls; that’s why the box Delattre showed me was labelled “Objet Un.” But the scrolls did not satisfy Napoleon for long; capitalizing on victory in the Battle of Austerlitz, France invaded Naples in 1806, forcing Ferdinand and his court to flee to Sicily, leaving the scrolls in nearby Portici, where they were housed in a royal museum. When Britain helped restore Ferdinand to the throne, in 1815, he was so grateful that he is rumored to have bestowed eighteen scrolls on the British Prince Regent, later George IV, who in turn gave the Neapolitan court eighteen live kangaroos from the British colony of New South Wales. Some of these scrolls ended up in Oxford, but a few are still unaccounted for. The fate of the kangaroos is even less clear.

Delattre placed his hands on the box containing *Objet Un*. But he did not open it. He prepared his guests for the worst—the shock of seeing the body in the morgue. When he finally lifted the lid, you saw why. Swaddled

in thick cotton was what appeared to be a human turd.

One glance at the scroll was enough to be sure there was no hope it could ever be unwrapped physically. But what about virtually?

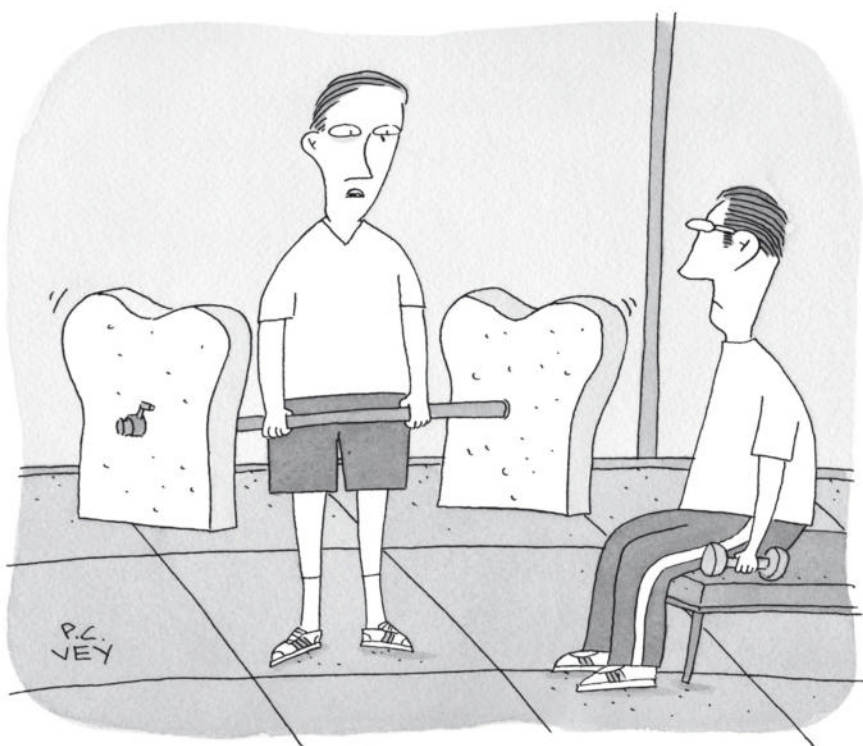
Herculaneum was situated on the southwestern flank of Vesuvius, closer to the volcano than Pompeii, to the southeast, and it was destroyed in a different way. Pompeii was slowly buried under falling pumice and ash, carried by the prevailing wind for several days, while Herculaneum was flash-seared by volcanic phenomena called pyroclastic flows and surges—successive waves of superheated gas and rock that overtook the city rapidly, eventually sealing everything under a deep layer. In a famous letter to Tacitus, Pliny the Younger, who witnessed the eruption from across the bay, at Misenum (his uncle, the naturalist and philosopher Pliny the Elder, died in the catastrophe), described seeing “a horrifying dark cloud, ripped by sudden bursts of fire, writhing back and forth.”

For centuries, it was believed that most of the residents of Herculaneum had escaped. It was not until 1980 that a grisly discovery was made: gathered

together by the harbor, in what had been boat sheds, were some three hundred skeletons, of people who had apparently been waiting for rescue. The pyroclastic flow carbonized organic matter such as wood, food, sewer contents, and scrolls; little trace of these things was found at Pompeii, where almost everything organic eventually decayed. Joseph Jay Deiss, in his evocative book “Herculaneum: Italy’s Buried Treasure,” describes an urban tableau that is frozen in time: “Luncheon still waits on tables. . . . The sick boy in the shop of the gem-cutter lies in his bed, his lunch of chicken uneaten. The baby remains in the cradle, a pathetic little heap of carbonized bones.”

The Villa dei Papiri is thought to have been built by Julius Caesar’s father-in-law, Lucius Calpurnius Piso Caesoninus, a wealthy statesman who was a consul of the Roman Republic in 58 B.C. The huge house, at least three stories tall, sat beside the Bay of Naples, which at that time reached five hundred feet farther inland than it does today. The villa’s central feature was a long peristyle—a colonnaded walkway that surrounded the pool and gardens and sitting areas, with views of the islands of Ischia and Capri, where the Emperor Tiberius had his pleasure palace. The Getty Villa, in Los Angeles, which was built by J. Paul Getty to house his classical-art collection, and opened to the public in 1974, was modelled on the villa and offers visitors the opportunity to stroll along the peristyle themselves, as it was on that day in 79.

Buried four times deeper than Pompeii, Herculaneum was forgotten. Its name disappeared from history. In 1709, more than sixteen centuries after the eruption, workmen digging a well in the town of Resina hit the upper tier of Herculaneum’s ancient theatre, a structure that once seated twenty-five hundred. The excavations that followed, which were closer to treasure hunts than to archaeological digs, were mostly carried out under the auspices of the royal House of Bourbon, members of which ruled France and much of southern Europe, including Spain and parts of present-day Italy. The Villa dei Papiri was discovered in 1750, and its excavation was supervised by a Swiss architect and engineer named Karl Weber, who dug a network of tunnels through the



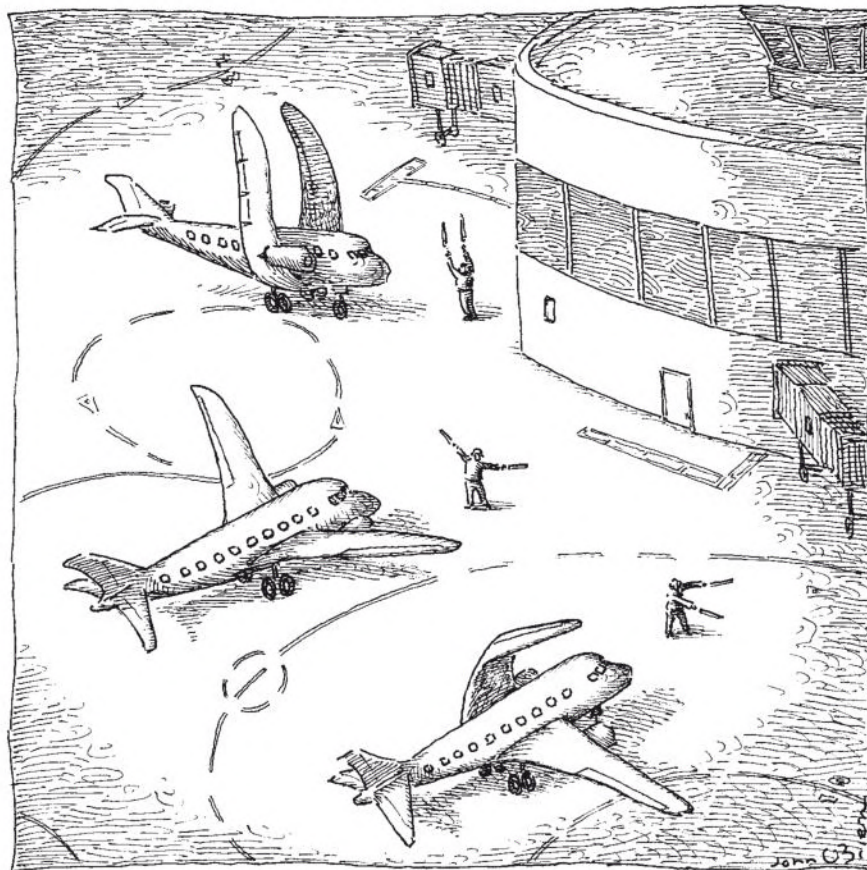
“Never eat anything you can’t lift over your head.”

subterranean structure and eventually drew up a map of the villa's layout. The architects of the Getty Villa based their design on Weber's plan.

The discovery of the first cache of scrolls, in October, 1752, was reported the following month in a letter sent by Camillo Paderni to Dr. Richard Mead. Paderni was a painter and copyist from Rome, who had come to Herculaneum to reproduce some of the villa's wall paintings. Somehow he managed to get Charles, Ferdinand's father, to appoint him "keeper" of the royal museum at Portici, where the sculptures and the scrolls were kept. Mead was a distinguished British physician, a fellow of the Royal Society, and a noted book collector, with a library of more than a hundred thousand volumes in his house in Bloomsbury, which was dispersed in an epic, fifty-six-day auction after his death, in 1754. In corresponding with Paderni, Mead may have hoped to obtain the ultimate prize before he died—a newly discovered great work of classical literature, of which there existed but a single copy.

Paderni's letter was read to the Royal Society, which met monthly in Crane Court, off Fleet Street, in February of 1753, and was published in the society's "Philosophical Transactions" for that year. The news of a recently discovered ancient library captivated Europe. The scrolls, together with the bronze statues, and the opportunity to descend into the theatre of Herculaneum, were the reason that Naples became a stop on the eighteenth-century gentleman's Grand Tour. ("See Naples and die.") Who could resist the chance to peer into a lost masterpiece from antiquity? The scrolls must have enhanced Charles's stature; in 1759 he assumed the throne of Spain, leaving his son Ferdinand to rule Naples and Sicily.

Charles told Paderni to see about opening the scrolls, and the keeper, whom the historian Charles Seltman described as "a lazy sycophant of a man," saw to it. In his letter to Mead, Paderni noted that the papyrus had "turn'd to a sort of charcoal, so brittle, that, being touched, it falls readily into ashes." He continued, "Nevertheless, by his Majesty's orders, I have made many trials to open them, but all to no purpose; excepting some words." As David Blank,



of U.C.L.A., a prominent American papyrologist, told me, Paderni at first simply cut the scrolls in half lengthwise. He removed the less charred *midollo*, or marrow, and then scraped away at the outer layers—the *scorza*, or bark, as it was called—until writing could be seen. (Only later did he realize that the *midollo* was, in fact, the most legible part.) Blank said, "Charles wanted visible writing that he could show to his important visitors."

In 1753, Charles brought in Father Antonio Piaggio, from the Vatican Library, who built a machine to unwrap the scrolls, very slowly, at the rate of a centimetre an hour—the so-called Piaggio Machine. Johann Winckelmann, the German archeologist and art historian, described Piaggio's work in his "Letter on the Herculaneum Discoveries," published in 1762:

It is incredible to imagine what this man [Piaggio] contrived and executed. He made a machine, with which, (by the means of certain threads, which, being gummed, stuck to the back part of the papyrus, where there was no writing), he begins, by degrees, to pull,

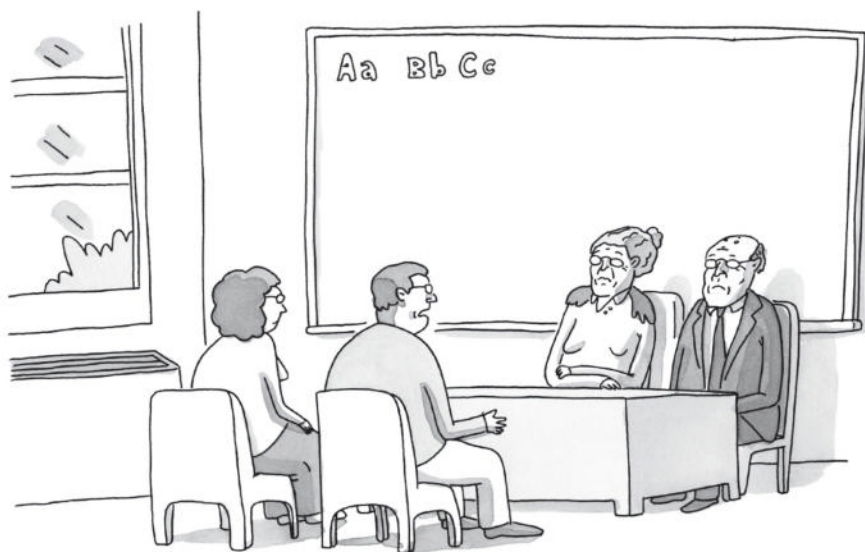
while with a sort of engraver's instrument he loosens one leaf from the other, (which is the most difficult part of all).

It was four years before the first scrolls were successfully unwrapped, but eventually Piaggio managed to unwrap fifty more, some dozens of feet long, with his machine. And what lost masterpieces did he reveal? Not Livy, or Sappho, or Simonides, the Greek lyric poet whom William Wordsworth invoked in his poem "September, 1819":

O ye, who patiently explore
The wreck of Herculaneum lore,
What rapture! could ye seize
Some Theban fragment, or unroll
One precious, tender-hearted scroll
Of pure Simonides.

Most of the scrolls, including the first one unwrapped by Piaggio, "On Music, Book 4," were written by the same person—a minor Greek poet and philosopher named Philodemus. Who was he? A nineteenth-century commentator called him "an obscure, verbose, inauthentic Epicurean from Cicero's time." Thanks to decades of painstaking work

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by Father Piaggio and his successors, we have the final book of Philodemus' multivolume "On Music," large parts of his "Rhetoric," and his "On the Stoics," "On the Good King According to Homer," "On Flattery," "On Wealth," and "On Anger," among many others. In some cases, there are multiple copies of the same book.

Philodemus was born about two hundred and thirty years after Epicurus, and was a member of the Athens school of Epicurean thought. He also wrote epigrams, of which Cicero speaks archly (he calls him a "Greekling"). Several of these are dedicated to Piso, Caesar's father-in-law. Like many late-Republic Roman aristocrats, Piso was a follower of Epicurus, and he seems to have been Philodemus' patron. At some point during the Roman takeover of Athens, Philodemus is believed to have moved to Herculaneum, bringing his library with him. The villa thought to have been built by Piso could have held Philodemus' library. (The reasoning for both

these theories is circular: because Philodemus was connected to Piso, and because the works were found in a villa that few Romans other than Piso were rich enough to build, the house probably belonged to Piso, and Piso's villa could have held Philodemus' library.)

Still, among the hundreds of unopened scrolls, there might be great works that Philodemus was describing; namely, complete copies of Epicurus' original writings. Among the Villa dei Papiri scrolls are many that were written in Latin; these were mostly found in the *capsae*, presumably because someone was trying to save them, but they are more likely to contain literary works by Roman writers. And the Latin papyri are in even worse condition than the Greek ones. Sarah Hendriks, a young Australian papyrologist whom I met in the National Library in Naples, who works on the Latin scrolls, said, "While it is relatively easy to find individual letters, finding whole words can be only a weekly or monthly

occurrence at most. Whole lines of text are extremely rare. I often look with envy at the Greek papyri!"

In 2005, Delattre attended a meeting in Oxford of the Friends of Herculaneum Society, a group of professional papyrologists and amateur Herculaneum enthusiasts. The keynote speaker was Brent Seales, a software engineer who is the head of the computer-science department at the University of Kentucky. He gave a talk about the possibility of "virtually unwrapping" the scrolls, using a combination of molecular-level X-ray technology, spectral-imaging techniques, and software designed by him and his students at the university.

Digital restoration—the application of modern imaging technology to the reading of ancient manuscripts—is not exactly Seales's idea, but it has become his mission. His work has brought him renown in papyrological circles, and has made him something of a celebrity on campus in Lexington, where the school newspaper regularly reports on his progress. Seales does much of his manuscript work at the university's Center for Visualization and Virtual Environments, where he is the director.

"The idea is that you're not just *conserving* the image digitally—you can actually *restore* it digitally," Seales explained, in his earnest, go-getter way. The potential struck him in 1995, when he was assisting Kevin Kiernan, an English professor, on a digital-imaging project involving the only extant copy of "Beowulf," the medieval masterwork, which is in the British Library. The manuscript was damaged in a fire in 1731. The Kentucky team used a variety of techniques, including one called multispectral imaging, or MSI—developed by NASA for use in mapping mineral deposits during planetary flyovers—to make the letters stand out from the charred background. The basic principle is that different surfaces reflect light differently, especially in the infrared part of the spectrum. Inked letters will therefore reflect at different wavelengths from those of the parchment or vellum or papyrus they are written on.

As Seales worked on more manuscripts, he realized that what he had thought of as a two-dimensional problem was really three-dimensional. As a writing surface ages, it crinkles and

buckles. If Seales could design software that reverse-engineered that aging process with an algorithm—"something like the stuff that lets you see the flag waving in reverse," as he put it—he might be able to virtually flatten the manuscript. Back in Kentucky, Seales and his team put their concept to the test with King Alfred the Great's Old English translation of "The Consolation of Philosophy," by Boethius, which is also in the British Library. They studied the material science of the vellum that the medieval scribe had used, and, by modelling that on the computer, Seales was able to virtually smooth out the manuscript, making some letters visible for the first time.

Seales's name got around to the curators of collections containing badly damaged manuscripts; he was the guy who could read the unreadable. "I came to think of it as the 'impossible scenario,'" he said. "Every time we'd go to a collection, people would pull out stuff they couldn't do anything with, and say, 'O.K., you can do something with that, but what about this?'"

Richard Janko, a classical scholar at the University of Michigan and a leading papyrologist, heard of Seales's work and talked to him about the Herculaneum papyri—the ultimate impossible scenario, because reading them meant not only flattening deformed surfaces but also seeing inside scrolls that had never been unwrapped at all. In 1999 and 2000, a team from Brigham Young University had, in fact, conducted an MSI study on some of the scrolls that had already been opened. They achieved spectacular results on the surfaces. But they could do nothing with the hundreds of scrolls that hadn't been unrolled.

Seales, in his Oxford talk, proposed putting an unopened scroll inside a CT scanner. CT—computed tomography—is the X-ray technology used to create 3-D images of human bones and organs. More recently, CT has been applied to mummies and a variety of other archaeological artifacts, as well as to fossils. Because X rays pick up the presence of metals, they have worked well on medieval manuscripts, whose ink contains iron. To dramatize what might be possible, Seales had made his own scroll, using a fresh sheet of papyrus on which he had written symbols with iron-gall ink, and which he then rolled up three times. He

scanned it, and the result was an arresting simulation of images that depicted the scroll unrolling and the symbols showing clearly on the surface.

But no one had ever done a 3-D scan on an ancient Herculaneum papyrus scroll before. "And I'm this naïve American," Seales told me. "I think all I have to do is ask if I can scan one and they'll say yes." The National Library in Naples, where the vast majority of the scrolls are kept, eventually rejected his proposal.

After the talk, Delattre introduced himself to Seales, and explained that there were six scrolls in Paris. Seales had not known about them. "*Mais oui*," Delattre said. And he, Daniel Delattre, was the primary scholar.

Daniel Delattre learned Latin by the age of eleven and ancient Greek a few years after that. "Those were the two subjects I preferred," he told me. He met his wife, Joëlle Delattre-Biencourt, in high school, and they fell in love with antiquity and with each other. After attending the University of Lille, Delattre taught high-school classics and began working on his doctoral thesis, on the theology of Epicurus, who is best known for the doctrine that the goal of life is pleasure.

Epicurus also posited that the world is made of atoms—the *atomos* (indivisible) elements of matter. "Epicurus says we are in an atomistic system," Delattre explained. "Everything that occurs is the result of the atoms colliding, rebound-

ing, and becoming entangled with one another, with no purpose or plan behind their motions." For Delattre, Epicureanism encompasses physics and ethics, a complete world view that he both studies and emulates. As he gets older, he told me, he finds it comforting to think that "when we die there is a dissolution of the aggregate, and the atoms come together to make a new thing. And so we have nothing to fear from death; there is no punishment, no Hell—we simply cease to exist." There are gods, "but they are very quiet and very happy and don't interfere with human activities." Epicurus influenced the first-century-B.C. Roman poet and philosopher Lucretius, who wrote "On the Nature of Things," the epic poem that was rediscovered in a monastic library in 1417 by Poggio Bracciolini, a find that Stephen Greenblatt, in his 2011 Pulitzer Prize-winning book, "The Swerve: How the World Became Modern," credits as being a founding document of the Renaissance.

Not a single one of Epicurus' philosophical texts has survived; aside from a few fragments, his only preserved words come from two collections of sayings and three letters known only from secondary sources. One letter, as reproduced by Diogenes Laertius, an early biographer of the Greek philosophers, reads, "I have written this letter to you on a happy day to me, which is also the last day of my life. For I have been attacked by a painful inability to urinate, and also dysentery,



so violent that nothing can be added to the violence of my sufferings. But the cheerfulness of my mind, which comes from the recollection of all my philosophical contemplation, counterbalances all these afflictions.”

Delattre didn't plan to become a papyrologist, but one of the Philodemus scrolls unwrapped by Father Piaggio in the eighteenth century was on the subject of Epicurus and the gods, and he wanted to read it. He went to the National Library in Naples. “When I saw the opened sheets of carbonized papyrus for the first time, it was very impressive. For me, the writing was very vivid. I felt I was in direct contact with that time. And when I read the name Plato for the first time in the text it made me very emotional. I became a papyrologist at that moment.”

Papyrology is a study that combines aspects of textual scholarship, philology, and archeology. It requires Olympian patience to find letters and words amid such badly damaged material, and immense learning to divine the meaning within. It's unusual to get three words in a row without lacunae. Compounding the difficulty is the fact that scribes wrote Greek without spaces between words. A single line can easily take six months to decipher. Sometimes educated guesses about missing bits are wrong, causing the reader to arrive at different meanings from what was intended. One of the revelations following the Brigham Young MSI studies was how wrong many of the earlier readings of the scrolls were. Some editors were essentially making up their own texts.

“Papyrologists are a special breed,” Anthony Grafton, a professor of Renaissance and Reformation history at Princeton, says. “They work with really badly damaged manuscripts. But they live with the promise of finding something really new—which is very rare in most classical scholarship.” There, marginalia is the only hope.

Delattre spent a year in the National Library, where, in addition to his thesis research, he started working on a new edition of part of Philodemus’ “On Music, Book 4,” the first of the scrolls opened with Piaggio’s machine. That was in 1985. He finished two decades later. Along the way, he made a stunning discovery: previous editions of “On Music” had the sequence of some of the detached leaves of the scroll backward. Delattre’s edition,

CARAVAGGIO, TEXAS

The fire truck edged up onto the sidewalk.
I was smitten with stooping
in the iridescent rhubarb
and with the expected cramping of moon.

I was going philosophical over
the body count in my favorite soaps—
I know when I get bored they kill, *say*,
the librarian-who-stutters just
to ease me through my day.

To be smitten with pain is a discipline,
the priest used to say ...
The fire truck looked like a poor man’s
meat loaf sweet with ketchup and onions.

The firemen in large downturned boots
walked toward me like dead
commissioners of baseball
looking
for a reddening rib eye in the winter
sunlight—this unusually long winter
of rain ...

published in 2007, corrected the problem and has caused papyrologists to reevaluate the entire Philodemus canon. Richard Janko, in a review in the *Journal of Hellenic Studies*, called it “pioneering work of the first order.”

Delattre became the official editor of the six scrolls in the Institut de France in 2003, a year after the two damaged scrolls returned from Naples. Working at the Sorbonne and at the Institut de France, he has been preparing an edition of one of them, assisted by various students and colleagues; his wife, a retired philosophy professor, is also part of the team. Delattre has been trying to figure out the correct order of the pieces, read them, and publish an edition before he dies, a goal that he says is impossible, because the project “takes an infinite time. Our human scale is not the scale of the scrolls.” He is far enough along in the book to be sure that it is yet another work by Philodemus: “On Slander.”

In the course of obtaining permission to scan the Paris scrolls, Seales had to give a presentation, in French, to the Académie des Inscriptions et Belles-Lettres, an academy within the Insti-

tut de France. “I just wanted to run and hide before that talk, I was so nervous,” he said. His request was approved. In 2009, with a grant from the National Science Foundation, Seales had a portable CT scanner brought to the institute, and he spent four weeks scanning two unopened scrolls.

In the resulting images, the folds in the papyrus look cellular, almost biological. Here and there, grains of sand, perhaps trapped in the scrolls when a sandy bather had finished reading, are clearly visible. Seales proposed using these as orientation points for navigating within the labyrinthine volumes.

But the CT scans did not show any letters. There was lead in the ink, but only trace amounts. Though the ink did contain carbon, it did not stand out against the carbon in the blackened papyrus. Seales said, “We hoped that we could look for calcium or other trace compounds in the ink that might help us tease out the writing, but that didn’t work out.”

In 2010, at a digital-restoration conference in Helsinki, Seales met Uwe Bergmann, a physicist at Stanford. Seales was familiar with Bergmann’s work on

I loosened my bra with an innocent
adjustment of my left shoulder. These guys
don't shoot down poles anymore, they
miss the bells, too,
but insist they cook their wives
under the table. I said
to the old one, you mean *drink*
them under the table. *I wish*

was his response, eying
my neighbor's ass and the smoke
pouring from the garage—I had set
yellow rags on fire
with a magnifying glass. If you'll
believe this, it accompanied my ex-husband's

favorite dictionary,
which he abandoned
when he ran off with Jolienne,
my sister's second baby, not really
just out of the carriage, but from
what I would describe
as her most memorable marriage.

—Norman Dubie

the Archimedes Palimpsest. In the early nineteen-hundreds, scholars had discovered that two lost works of Archimedes, the third-century-B.C. Greek mathematician and inventor, lay beneath a medieval religious text; a third work, which was also found, had survived in Latin translation. The palimpsest was probably made in Jerusalem, in the thirteenth century. Parchment was in short supply there, and a scribe had scraped away at a tenth-century copy and written over it. Using MSI, researchers could see the titles—"Stomachion," "The Method of Mechanical Theorems," and "On Floating Bodies"—but they couldn't decipher much of the text beyond what was visible to the naked eye.

When Bergmann read about the palimpsest, in an article in *GEO* that his mother had given him, he immediately thought of employing a synchrotron, a type of particle accelerator—a machine that uses magnets and microwaves to move subatomic particles at almost the speed of light. Some accelerators are linear, others are ring-shaped; Stanford has both kinds. In a synchrotron, the particles' trajectory is altered to produce powerful X rays, which can be focussed

into a beam about the width of a strand of hair. With this beam, it is possible to produce images of molecular structure; the synchrotron has become an immensely useful tool for the drug and electronics industries in developing and studying new compounds.

The beam can be "tuned" to look for particular elements. "The article said that the ink the scribes had used contained iron," Bergmann said. "That's one thing we do at the Stanford synchrotron. We measure iron and other metals in proteins—extremely small concentrations of iron."

Once he obtained access to the palimpsest, Bergmann used X-ray fluorescence imaging, or XRF, in the synchrotron to get pictures of the iron-based molecules in the ink. Unlike MSI, XRF is sensitive to individual elements. Different elements emit characteristic wavelengths of light when the X rays hit them; by zeroing in on iron, Bergmann was able to see the letters. "What had been invisible for centuries was made, right before our eyes, visible," he said, in an interview published by the Department of Energy. "Line by line, Archimedes'

original writings began to come to life, literally glowing on our screens. It was the most amazing thing."

At the Helsinki conference, Seales pointed out to Bergmann that XRF wouldn't work on the unopened scrolls, because it doesn't penetrate deep enough; it would scan only the outer layers. "And Uwe didn't bat an eye," Seales told me. "He said, 'Phase contrast, man.'"

Phase contrast, or XPCT, is another microscopic-imaging tool made possible by synchrotrons. Because XPCT can penetrate surfaces much more deeply, it is used to measure density. A detector behind the sample being imaged captures the changing intensity of the beam as it passes through different atomic densities, which would allow the scroll researchers to map the indentations left by the stroke of the pen.

Bergmann and Seales were considering using Stanford's synchrotron, but the Institut de France would not allow the scrolls to leave the country. There was a synchrotron just outside Paris, but "beam time" there cost about twenty-five thousand dollars a day, and Seales was unable to get a grant to pay for it.

By now, seeing inside an unopened scroll had become something of a quest for Seales. "We'll read the scrolls," he told me in an e-mail. "It's been ten years and look at all we have achieved. From impossible to plausible, even probable. From the wreck of Herculaneum lore, we've created a body of systematic, scientific work." It was only a question of getting the beam time.

Then comes the swerve—a central concept in Epicurean physics. If all matter is made of atoms, and if atoms move through the void according to their own fixed laws, then everything that happens to us is predestined. But, Delattre explained, "There would be no freedom, and for Epicurus we are free, so he wanted to introduce the possibility of this slight deviation." Sometimes the atoms swerve slightly out of their natural trajectory, causing unplanned collisions with unpredictable consequences—not unlike what particles actually do in a synchrotron. (The particle accelerator is an Epicurean invention.) "Lucretius calls this the *clinamen*, which means 'deviation' in Latin—the atoms' tendency to change direction slightly," Delattre added. On

a vast scale, this creates an inherently unpredictable universe in which man freely chooses his own path.

The swerve in Seales's plans was Vito Mocella, a physicist at the Institute for Microelectronics and Microsystems, in Naples, who also happened to be interested in the scrolls. In 2007, he was on a family holiday in Capri at the same time that a conference of Herculaneum papyrologists was being held at his hotel. He overheard one of them talking about the problems with reading the scrolls and, he told me, he thought of phase contrast, which he uses regularly in his work on new drug compounds. "I thought that would perhaps solve the problem," he said.

Mocella is a native Neapolitan; he looks a bit like John Lennon might have if he'd had an Italian wife who kept him well fed. He remembers seeing the scrolls for the first time in the National Library when he was ten. "I thought it was strange that the Piaggio Machine was still the best method of opening the scrolls," he told me. "That machine was two hundred years old!"

Mocella had no problem getting beam time in a synchrotron. An old friend from his graduate-school days, Claudio Ferrero, was the head of the Data Analysis Unit at the European Synchrotron Radiation Facility, in Grenoble. Ferrero thought that he could get the E.S.R.F. to donate some beam time if Mocella could get his hands on a scroll. Ferrero described the amazing results that paleontologists were getting with fossilized eggs—the X-rays showed the shape and the density of the embryos inside. He thought that phase contrast might be able to pick up the writing. Papyrus is nonabsorbent, so the ink is slightly raised on the surface.

Mocella inquired at the National Library in Naples about the possibility of putting a scroll inside the synchrotron at Grenoble, and was told that it was out of the question. On learning of the scrolls at the Institut de France, he contacted Delattre in the summer of 2013, and secured his help in getting the institute to agree to lend one scroll and fragments of one of the damaged ones. Late that fall, Delattre brought two fragments and a complete scroll, packed in a cylindrical foam case that Seales had designed for the CT scans, to Grenoble

on the T.G.V. train from Paris. Seales, however, would not be travelling there with him.

The E.S.R.F. is situated in an expansive research park, just above the confluence of two rivers, the Isère and the Drac, at the northern end of Grenoble, the small, mountain-ringed city that was the site of the 1968 Winter Olympics. The accelerator there is a ring, a kilometre in circumference. It is densely packed with "hutches," where the experiments take place. Inside each hutch is an experiment room, where the beam collides with the sample, and a control room, where the scientists monitor the resulting scan on computers. The whole accelerator is enclosed in its own building, with grounds surrounding it and a guesthouse for visiting scientists.

Delattre, as the conservator, was responsible for handling the fragments and the scroll, which had to be scanned individually. In the experiment room, he mounted each piece, one at a time, in a sample holder, where the beam would strike it. The two fragments were tilted; the scroll was placed vertically. Then he joined Mocella, Emmanuel Brun, a French physicist also with the E.S.R.F., and Ferrero in the control room and started the experiment. The sample was exposed to the beam. By turns, the beam passed through the two fragments and



the scroll and its many layers, and struck the detector behind, which recorded the information about contrast densities. The beam is invisible, and exposure to it is dangerous; the researchers had to remain in the control room during the scans, which generally lasted for a few hours. The sample holder rapidly rotated the scroll and the fragments in microfractions of three hundred and sixty degrees as the beam flashed. Because the beam is so small, millions of exposures

are needed to get a 3-D picture of a scroll. Although the letters are only two or three millimetres high, hundreds of scans are required to get enough information to make out a single letter.

The team waited nervously while the machines compiled the results. (Rendering the scans into images takes tremendous computer power.) On the second day, they began to see images. At first, the landscape looked bleak, barren of readable surfaces. The carbon in the crosshatched papyrus fibres (the sheets were made by pressing two pieces of papyrus together) stood out as dark streaks. But later that day the team had "an impression," as Mocella puts it, of letters in one spot on the intact scroll, on an exposed edge about two-thirds of the way in. After two weeks of work, Delattre confirmed the impression. Altogether, the team found writing scattered throughout the scroll, and in one fragment they found a series of letters next to each other—pi, iota, pi, tau, omicron, iota—which means "would fall."

The article in which the team reported their findings, "Revealing Letters in Rolled Herculaneum Papyri by X-Ray Phase-Contrast Imaging," published in *Nature Communications*, in January, 2015, brought almost as much attention to the scrolls as had Paderni's letter to Mead. As proof that the concept of virtual unwrapping could work, it was a milestone. "It's the first hope of real progress we've had in a long time," David Sider, of N.Y.U., told me. But, so far, the rate at which the team is reading the text makes Piaggio's machine seem positively to hum by comparison.

More than three-quarters of the Villa dei Papiri has never been excavated at all. It wasn't until the nineteen-nineties that archeologists realized that there are two lower floors—a vast potential warehouse of artistic treasures, awaiting discovery. A dream held by papyrologists and amateur Herculaneum enthusiasts alike is that the Bourbon tunnellers did not find the main library, that they found only an antechamber containing Philodemus' works. The mother lode of missing masterpieces may still be there somewhere, tantalizingly close.

Mocella accompanied me on my visit to the Villa dei Papiri. Giuseppe Farella, who works for the Soprintendenza,



the regional archeological agency, which oversees the site, took us inside the locked gates and led us into some of the old tunnels made by the Bourbon *cavamonti* in the seventeen-fifties. We used the lights on our phones to guide us through a smooth, low passageway. An occasional face emerged from the faint wall frescoes. Then we came to the end.

"Just beyond is the library," Farella assured us, the room where Philodemus' books were found. Presumably, the main library, if one exists, would be near that, within easy reach.

But for the foreseeable future there will be no more excavations of the villa or the town. Politically, the age of excavation ended in the nineties. Leslie Rainer, a wall-painting conservator and a senior project specialist with the Getty Conservation Institute, who met me in the Casa del Bicentenario, one of the best-preserved structures in Herculaneum, said, "I am not sure excavations will ever be opened again. Not in our lifetime." She pointed to the paintings on the walls, which the G.C.I.'s team is in the process of recording digitally. The colors, originally vibrant yellows, had turned red as a result of the heat from the volcano's eruption. Since being uncovered, the painted architectural details have been deteriorating—the paint is flaking and powdering from exposure to the fluctuating temperature and humidity. Rai-

ner's project analyzes how this happens.

Richard Janko, of the University of Michigan, argues that books are a special case, archeologically, and should be excavated regardless. "Books are a different kind of artifact," he said. "You can gain knowledge of a whole way of life through a single book. They are designed to carry information across the centuries." If we wait until the volcano erupts again, he warns, they could be lost forever. Vesuvius, which has erupted scores of times since A.D. 79 and is still one of the most dangerous volcanoes on earth, has been quiet since 1944.

Brent Seales, denied the scientific glory of being the first to see inside the rolled scrolls, has been focusing on the software side of the problem. If large portions of wrapped scrolls are ever going to be read virtually, the process will have to be automated. You'd need a scroll reader that skims along the surface of each successive fold, looking for characteristic shapes and densities of letters. Seales has been designing a prototype for such software, and he showed it to Delattre recently. "Impressive" was the Frenchman's opinion. Janko thinks that "clearly the way forward from here is to combine the work Seales is doing with Mocella's data."

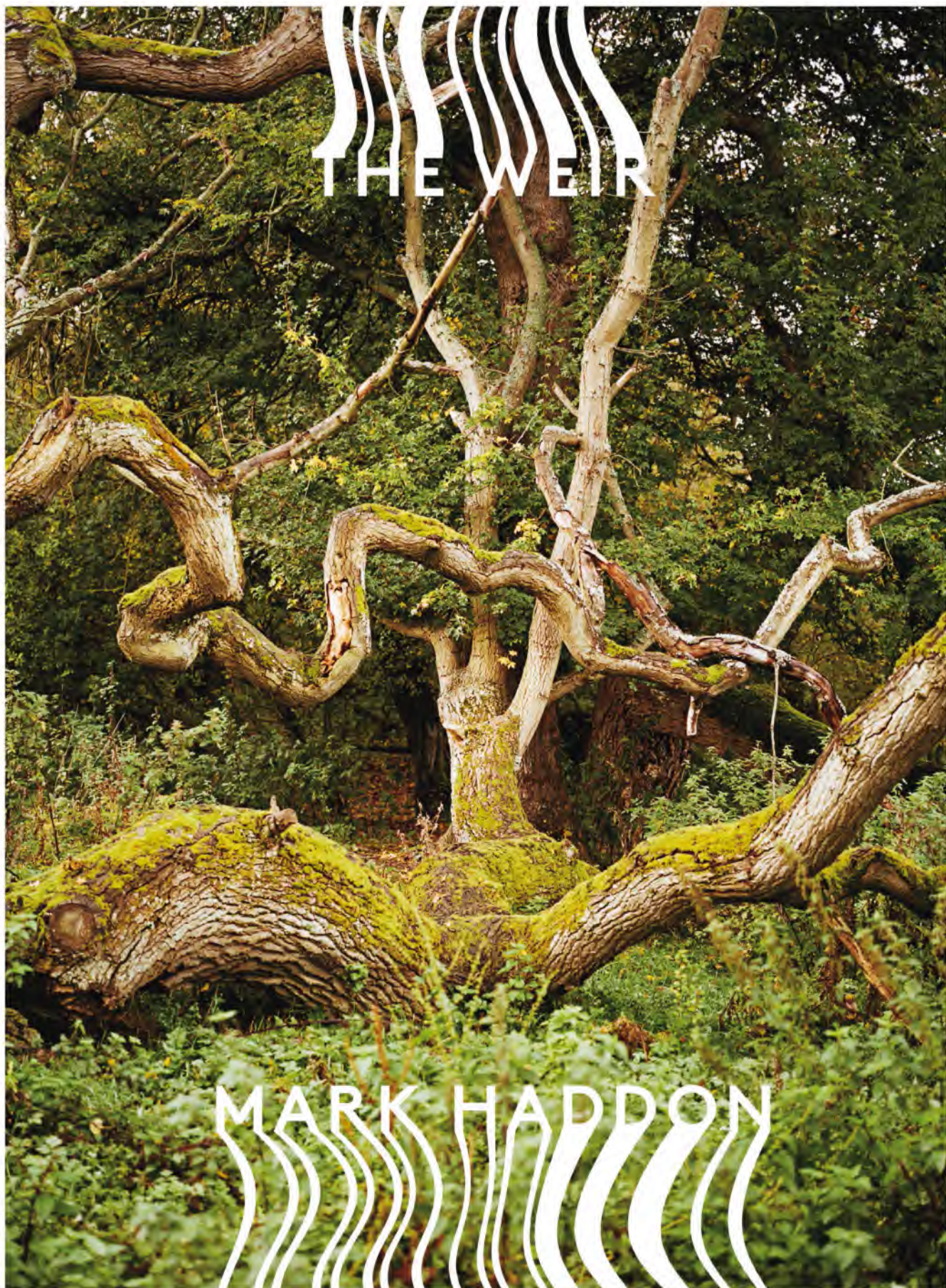
Such a convergence seemed poised to occur this spring, when Seales, Delattre, and Mocella were set to meet in Grenoble, for another synchrotron ses-

sion: the software engineer, the papyrologist, the physicist, and a whole week of beam time. (Seales still wasn't part of the team, but he was coming anyway, to present his virtual-unwrapping software.) At the last minute, though, the team didn't get the scroll. Only days before the experiment was set to begin, the Institut de France indicated that it could not grant Mocella's request. No official reason was offered, but the recent publicity about the virtual unwrapping was thought to have caused the institute to reevaluate the scrolls in terms of intellectual property. Controlling access to the scrolls has always been a form of power.

The institute's decision was a blow to Delattre. When I saw him not long afterward, in the institute's library, he still seemed shaken.

While the box containing *Objet Un* was open, I asked Delattre whether he thought the scroll would ever be virtually unwrapped. He considered the question while gazing at the black, shrivelled lump of carbon. On the one hand, it was just an old burned-up word turd left behind by a minor Greek poet and unoriginal thinker. But, on the other hand, it was an invisible stream through which knowledge and pleasure and advancement flowed—if only you could get the access.

"I do not expect this scroll will be read during my lifetime," Delattre said, finally. He closed the lid of the small box with both hands, his shoulders slumped in defeat. ♦



DESIGN BY JOHN GALL

He pops the catch and lifts the rusty boot. Quivering with excitement, the dogs burst from the back of the car, squirm under the lowest bar of the fence, and bolt across the field in great arcing bounds. Leo and Fran, big chocolate-and-white pointers. He drops the chewed and ragged tennis ball into one jacket pocket, the coiled leather leads into the other, grabs the old grippless tennis racket, and slams the boot. He beeps the lock and climbs the stile.

Grass stretches into the distance. Twenty acres. There are no sheep this year, so half a million buttercups hover just above the ground. He can smell the May blossom, the same chemicals that are in semen and corpses, so he read the other day. Wytham Woods rise beyond the meadow to his left. Up there among the trees is the path called the Singing Way, where pilgrims broke into song as they passed My Lady's Seat and looked across the silver flood of Port Meadow to the inns and spires of Oxford.

It's one of those spring days which seem warm and cold at the same time. Cirrus clouds overhead. Ice crystals at sixteen thousand feet. Enough blue to make a pair of sailor's trousers. A pied wagtail lands briefly on the path in front of him, then hops back into the air and is carried away.

Leo races toward him and skids to a halt with Fran in pursuit. He barks and half prostrates himself, forelegs flat on the ground, hindquarters in the air. *Throw the ball throw the ball throw the ball.* Ian lobs it into the air, whacks it hard, and both dogs launch themselves backward, twisting in midair so that they land on all fours, then run like racehorses in old paintings, the ball still up there, sliding around that big curve.

To his right, the river is full from last week's downpour, the surface purling midstream as the water sorts itself out below the weir. A buzzard circles above the scrubby wasteland on the far side. He treads carefully over the loose twisty poles of the cattle grid and feels, as he always does at this precise point, that he has crossed an invisible boundary that marks the limit of the town's reach.

It's now seven weeks since Maria left, and he's rather pleased at how well he's coping. The dogs help, dragging him out on long walks like this. Having the time of their lives, probably. Plus, thanks to

them, the house is never empty. He's learning to cook for himself after twenty-six years: macaroni and cheese, shepherd's pie. . . . And reading his way through the stacks of books that have been glaring at him from the shelf above the TV for the last God knows how long: John Grisham, Philip Pullman, the one set in Afghanistan whose author he can never remember.

Fran returns with the ball in her mouth. They do a little dance of dodge-and-feint. She drops it. He picks it up and whacks it away again.

If there are rough patches, that's to be expected. Change gets harder as you get older, just as the body becomes less flexible. Today, for example. The nagging feeling he has that his marriage is only the latest thing to have slipped away. The world is shifting too fast, in ways he doesn't understand, and values he grew up with have become vaguely comic: courtesy, respect, stoicism, reticence. When did holding a door open for a woman become an insult? Teenagers watching pornography on their phones.

He wonders if it all comes down to Timothy, the friction that ended the marriage. Or whether, when you have a ready-made answer like that, you use it lazily for every question. The fact that their son's behavior may be malicious is what makes it hardest to handle, Timothy wanting them to suffer. Three years without a postcard, an e-mail, a phone call. How angry he felt when Maria said that it would be better if Timothy were dead. Her own child. He has dreams of a blurred postmark. Lhasa? Marrakesh? Stepping off the plane into sauna shimmer. Hostels, cafés, some unshaven local policeman with his feet on the desk under an idle ceiling fan. The photograph in his pocket getting more dog-eared and faded by the day.

Fran returns yet again with the tennis ball. Leo is busy chasing something. So long as he doesn't bring it back bloody and struggling. Ian hits the ball high into the air with a satisfying *boink* of the taut strings.

She isn't with someone else, thank God. Unless she's hiding it. Which wouldn't be hard, him being blind to so many things.

There is movement at the edge of his field of vision now. Someone is walk-

ing along the gantry of the weir that runs between the farmland and the island. The lockkeeper, presumably, or an inspector from the Environment Agency. But then the person turns, and he sees a bright-red rucksack. It's a woman. She must have lost her way. As far as he knows, you can reach the weir only via an unmarked track that descends from the hard shoulder of the ring road. Black leggings, denim skirt, big tartan shirt, long straight blond hair. Twenty, maybe twenty-five. She seems unsure of her footing and is supporting herself by holding onto the metal uprights and the rusted valves. It is not a good place to be unsteady on your feet.

Again Fran blocks the path in front of him, tail up, head down, panting, tennis ball between her paws.

Not now.

She whimpers. *Please please.* He picks it up, wallops it away, and starts walking upriver toward the lock.

Beneath the woman's feet, the whole river is being forced through a single open gate, a fat silver spout curving into the churn of surf. The roar could be a house on fire. She comes to a halt at the very center of the weir. She is clearly in some kind of trouble. Sudden dizziness, maybe, or that phobia people get on bridges. He can imagine standing there and looking down and being spooked by that torrent. He wants to call out to her, reassure her that he will be with her in a few minutes, but there is no way she will hear him at this distance and over that noise. He starts to run. If he remembers correctly, there is only a chain to keep pedestrians from crossing the lock. Presumably there is some kind of path through the trees. It will take him, what, two or three minutes?

Then he sees her let go of the supports. She is facing downriver and he realizes that she is planning to jump. Understands, too, why she was staggering, because why else would you wear a rucksack if you were planning to do something like that? He feels sick at the thought. "No!" He waves his arms, but she does not turn her head.

She pitches gently forward.

It is both more and less real than anything he has ever seen. Time really does slow down. Her blond hair rises like a candle flame. She seems completely

relaxed, more like someone sleeping than like someone falling.

She vanishes into the foam.

Everything is suddenly back to normal. The dandelions, the clouds, the buzzard. For a few seconds he wonders if he really saw it. But Leo is standing on the bank beside him, barking at the water, and he understands that the woman is dying right now, somewhere out there, trapped in the stopper, perhaps, being tumbled and battered in that big drum of water. He takes his phone out of his trouser pocket but his hands are trembling too much to dial a number. Then he sees it in the water, the briefest flash of red.

His jacket and his shoes are off. He does not remember doing this.

Red again midstream. Both dogs at the bank now, barking.

He jumps into the shallows. This is a stupid thing to do. Weed and sucking mud. He throws himself forward in a clumsy half dive. The silty bottom reluctantly lets him go. The water is so cold his chest seizes and he cannot breathe. He gathers his energy and shouts the way he would shout if he were lifting a heavy weight. His ribs loosen.

It is nothing like the sea; it is nothing like a pool. The water sweeps him sideways. He can no longer touch the bottom with his feet. He realizes how big the river is now that he is inside it, how strong, how lost the woman must be, and how slim his chances are of finding her. He ducks under the surface, but the water is the cloudy green of Victo-

rian bottle glass and he can see for a couple of feet at most. He lifts his head out of the water and sees how swiftly he is being carried downriver. The banks are hidden now behind half-submerged bushes and trapped flotsam, the flow narrowing and picking up speed to squeeze under the bridge. Below the bridge is the weir stream for the next lock. He is suddenly very alone and very frightened, an idiot who has jumped into a swollen river. His sodden clothes are shockingly heavy, and it is becoming increasingly hard to keep his head above water.

She looms out of the bubbling green and claws at his face.

Mostly he is angry that she has attacked him when he is risking his life to save her. Memories of lifesaving classes at school, Mr. Schiller with his speech impediment, pajama bottoms knotted at the ankles. He yanks her around so she's facing away from him. Cup a hand under the chin, that was it. Her arms and legs are pedalling hard, trying to make a ladder of the water. Silver bubbles pour from her nose and mouth. He can't keep her mouth above the surface. The rucksack. Christ. He'd forgotten. He doesn't have the strength but the idea of not doing it is unbearable. He gulps as much air as he can, then ducks under. They sink together, the big red ballast pulling them down. He turns her around and grabs at the belt. Which sort of buckle is it? Sudden darkness overhead. The bridge. They're moving fast. He needs a knife. He doesn't have a knife. Yank, squeeze, twist. She is

punching him and grabbing his hair but whether she is trying to get to the surface or keep him from undoing the rucksack he cannot tell. His lungs are crying out for air. Don't breathe. A vicious scrabbling panic. His thoughts are becoming blurred, his brain starting to shut down.

Some fierce animal hunger for life wipes the woman from his mind. He kicks upward—hang on, hang on—and bursts into sunlight. He heaves down a lungful of air and dirty water, chokes and coughs it out, then sucks down another lungful. Then a third. She is down there somewhere, dying, dead. He can hear the dogs barking nearby.

She surfaces suddenly beside him, head above the water now. No rucksack. He must have got it off. Her eyes are closed. She's not moving. He grabs her hair this time. No time for niceties. She doesn't respond. Maybe he is dragging a corpse. He swims with one arm, breaststroke legs. Way past the bridge now. A hundred metres until the weir stream peels off and drags them sideways. He swims hard in the other direction, grabbing the end of a thorny branch. It snaps. He grabs another and it holds. They swing toward the bank and slow down as they are pulled out of the main current. The bottom. He can feel it, thank God. Sludge and roots. He heaves her shoulders upright so she's sitting in the shallow water. A reedy foot of bank between two brambles. The dogs stand side by side watching them. Is she breathing? He can't tell.

One last effort. He gets a firmer purchase under his feet and hoists her onto the grass. So heavy for such a tiny thing. Her flopping head smacks the ground as he rolls her onto her front. Recovery position, left knee up, left elbow up.

He collapses onto all fours beside her, breathing hard. He is seeing stars, pinpricks of light swarming across his retinas. He waits for his vision to clear, and slowly the rest of the world comes back into focus. Absurd quiet all around. Two red admirals. An ant walks over his finger.

Her skin is gray-blue. Her earrings are little chains of turquoise beads with silver spacers, hippieish, a kind he hasn't seen in a long time. He has an image of her looking into a lacquer box on her bedside table, choosing what to wear on her last day. Would you think about that kind of thing? The leggings have been



*"When I make eye contact for the first time,
I want it to be with the right person."*

ripped away from her right leg, and there is a bloody gash down her thigh. His own hand is bleeding. Those thorns? He can't see her chest moving. He takes hold of her wrist to check her pulse and it's like pressing a button. She vomits up a pint of river water and what looks like breakfast cereal. She coughs violently, then rolls onto her back. Her eyes are still closed, her hair matted and tangled.

He takes his phone out. A single air bubble is trapped under the waterlogged screen like a ball bearing in a puzzle. Damn. The car is sixty yards away, his shoes and jacket three hundred. He can't leave her alone. The keys are in his pocket, though. "Come on." He squats and slips his hands under her armpits. Fireman's lift. He carries her toward the car. Thorns and sheep shit under his socks. Most days he is desperate to have the place to himself, but today there is no one. Sod's law. He's freezing. And he's got a decent layer of fat on him. Up the steps and through the kissing gate, which clangs shut behind them. Fran and Leo are standing by the car, waiting patiently, guardians, eerily human. He shifts the woman's center of gravity to extract the key from his pocket. He unlocks the doors and whisks the rug off the back seat with one hand before the dogs leap on top of it.

He props her against the car and wraps the rug around her. Mud and hair and dog stink. Her whole body is shivering. He opens the passenger door and lowers her in, banging her head a second time. "Let's get you to a hospital," he says. She makes a noise that may or may not be a word. He does up her safety belt. You don't want to save her from drowning then break her neck in an accident.

He starts the ignition and twists the heater to max. A burst of Garth Brooks till he turns the radio off. The air in the car is still warm from the journey down, thankfully. Something almost fun about it now, dripping wet, driving in his socks, the glow of post-heroics.

As he drives back down the Woodstock Road she says something.

"I didn't catch that."

Slurred words, head lolling. "Not the hospital."

"Well, I'm not going to leave you by the side of the road."

She reaches out and puts her hand on his forearm and it is the first time that anyone has touched him with anything approaching tenderness in a long time. It is this moment that will come back to him later when he asks himself why he did something so stupid. "Please."

He doesn't turn onto the Marston Ferry Road toward the hospital. He takes her home.

He parks outside the house and leaves the engine running, and there is a moment of balance when the day could roll either way. But when he imagines walking her into the hospital and handing her to a nurse and watching her vanish though those automated doors he feels something painful he doesn't have a name for. He twists the key and takes it out of the ignition.

He lets the dogs out, unclips her seat belt, lifts her onto her feet then into his arms.

"I don't want . . ."

"It's not the hospital." He kicks the door shut.

Having juggled her sideways down the hall he lays her on the sofa, where she curls up like a dormouse. The shivering has become shaking. He drags the old electric fire from the bottom of the coat cupboard. Central heating on, thermostat to twenty-two. And realizes, only now, that he will need to undress her if he is going to get her warm and dry. Maria's voice in his head. How did this not occur to you? Fran is in the spare armchair. He can hear Leo eating biscuits from the clangy metal bowl in the kitchen. There is a smell of burning dust as the elements heat up and turn orange. He goes upstairs. Tracksuit bottoms, sweatshirt, woolly socks, towel.

"I'm getting you into dry clothes," he says. She does not respond. He unlaces her black boots. He has a flash of Timothy when he was tiny. Buckles and poppers and Velcro. Socks off.

He unbuttons her denim skirt, puts a hand under her hips, lifts her an inch or two off the rug from the car, pulls the skirt out, then rolls down her torn black leggings. His hand briefly pressed to her flesh, the weight of her. Scrawny thighs and damp white knickers with

pink roses on them. A tiny rose of pink ribbon on the waistband. A little curl of pubic hair coming out from under the hem. That long bloody cut on her goosepimpled skin. Memories of being this close to other young bodies. Maria, Jane Taylor, Mona Kerr, Jamila, a woman at a party in Dalston whose name went long ago but whose laugh and whose perfect plump stomach come back to him in dreams every now and then.

The thrill of unwrapping someone for the first time.

He starts to take her sodden knickers off but it frightens him, what he might feel, what she might think. He leaves them on and pats her dry as best he can. Blood on the towel. He slips

the tracksuit trousers on, one leg at a time. They are ridiculously baggy. He slips his socks over her tiny feet.

"Where am I?"

He sits her up to slide off her tartan shirt and shows her the sweatshirt. "You need to put this on."

She's gone again, fuzzy, uncomplicated. Bloody hell. He unbuttons her blouse. No bra. He fears that someone is going to materialize at the window or walk through the door. Skinny ribs and small breasts. Such pale skin. He leans forward to pull the blouse down her arms, trying to touch her as little as possible. He sits back and can't stop himself. He looks at her, naked from the waist up, for thirty seconds maybe, unable to take his eyes away. To his surprise, he is on the verge of tears. So many lost things. He cloaks her with the towel, gently rubbing her arms and back and shoulders. Like Timothy after a bath. More gently still, he presses the towel to her chest and stomach. The soft give of her breasts under his hand. He puts the towel aside and slips the sweatshirt over her head. Right arm, left arm. He lifts her briefly to remove the wet rug.

He stands behind the sofa to rub her hair with the towel while holding her head steady against his stomach. Timothy again. Feelings that shouldn't be sharing the same space in his head. He has never felt so old. He puts the towel down. "I'll get you a hot drink," he tells her. She flops sideways and curls up



again. She's shaking less. Or is that wishful thinking?

Only when he tries to put the kettle on does he become aware of how bone-cold he is himself. It's a relief to have this single, simple sensation consume him. He has to hold onto the bannister on the way upstairs. He drops his clothes on the bathroom floor. He should have a hot shower but he can't leave her on her own down there. He dries himself with a new towel from the airing cupboard and pulls on some jeans, a shirt, the big jumper Maria bought for him in Oslo. Walking socks, then a scarf from the newel post. That cold slab still sitting at his core.

The kettle rumbles to a climax and clicks off. Instant coffee for speed, with a spoonful of sugar. He sits her up again, and she helps a little this time. "Hold this." She puts her hands around the mug at least and balances it on her knees.

He says, "You're all right now," which sounds ridiculous as soon as he says it, because it might seem like a disaster, finding herself alive after all that. The memory of that water, the sheer mass and speed of it.

She leans her head back, eyes closed, and breathes out. She's ugly, almost. The blond hair fooled him. Big features, wonky nose. "Fuck," she says. "Fucking fuck."

He's never been comfortable with people swearing. "My name's Ian."

She doesn't offer her own.

"Why didn't you want to go to the hospital?"

She lifts her head and opens her eyes and looks at the tracksuit trousers, the sweatshirt, the socks. "What did you do to me?"

"I put you into dry clothes."

"Did you rape me?"

He is too surprised to think of an answer.

"You took my clothes off." She's panicking. "Where are my clothes?"

A rush of terror. The thoughts that came into his head as he was undressing her. Was she just pretending to be unconscious? "You jumped into the river."

She is suddenly calm again. "Yeah. I do that kind of thing." She laughs a humorless laugh.

MEMENTO MORI

"God blessed you with curly hair,"
my mother used to say
and dressed me like Shirley Temple.

On my bare scalp, Australia:
a birthmark that hid
in the thicket of my hair.

Unblessed in a downburst, I lost
my leafy summer, my lovely,
my crest, my crown.

I sleep in a flannel nightcap.
My wig sleeps in a closet,
comb and brush in a drawer.

I wake to a still life—
a clock that marks the hour
before it strikes.

No skull on my desk.
Just a face in the mirror,
unrecognizable.

—Chana Bloch

His heart is hammering. "But you're alive."

"They stick needles into you." She sounds drunk. He wonders if she took pills before going to the river. "They cover you in wires, like a monkey in a lab. They find out what you're thinking."

"Your clothes are in the kitchen." The adrenaline is ebbing a little. "I'll dry them for you."

"The small print on that form that no one reads?" She drinks the sugary coffee. "They can do anything."

Were they really in the Thames less than half an hour ago?

"I fuck everything up. It's my thing."

The sour self-pity in her voice, daring him to reach out and have his hand slapped away. He's disappointed to realize that he doesn't like her very much. "Sorry I saved you." It's meant to sound wry and funny, but he's shocked by how close it comes to what he's feeling.

"I'm so fucking cold."

He fetches her a scarf left years ago by some forgetful dinner guest. "Why did you do it?"

"Like you'd understand."

"Try me."

"You're just being 'nice.'" She does quote marks with her fingers, as if she were fifteen. "No one actually cares."

He bites his lip. Then he can't stop himself. "You don't throw a life away." It's Timothy he's thinking about, of course, the nights when he never came home, those God-awful semi-homeless friends, the smell of them. "Someone cares. Your parents, your brother, your sister, your friends, your neighbors, your doctor, the teachers you had at school, at college, even if it's only the poor bastard who has to pull your body out of the river." He's choking up a little. He's never thought of it this way—that a life is something held in common, that we lose a little of ourselves with every death. Or is it just the desperate hope that some frail strand still connects him to his son, the tiny tug of which might one day bring him home?

"Whoa, there." She holds up her hand in a comedy stop gesture but without smiling.

"I nearly died," he says. He wants very much to have the house to himself again. "I'm not asking you for thanks, but the least you can do is to take this seriously."

She crumples and starts to cry. Are they real tears? He's not sure.

"I should take you to the hospital. Someone needs to sort out that cut on your leg."

"I told you. I'm really, really frightened of hospitals." This feels like the truth.

"Because?"

"They get inside your mind." She puts her hand against her head as if her thoughts were precious or painful. She is still shivering.

It seems obvious now, the possibility that she's mentally ill. He feels stupid for not having thought about it before. He has no idea what to say. He is out of his depth.

She says, very quietly, as if she might be overheard, "Everything talks." She sounds younger now. Twelve? Ten? Eight years old?

"I'm sorry. I don't understand."

"Trees, walls, that clock, this wood. Your dogs."

She's so sure of herself that he very nearly asks her what they're saying.

"Stones just repeat themselves," she says, "over and over. *I'm a stone, I'm a stone*. Walls gossip all the time. The stuff they've had to listen to over the years. If you go into a graveyard, you can hear the dead talking underground."

She's crazy, clearly, but she doesn't sound crazy. She sounds like a sane person who lives in a world that is different from this one.

She cocks her head slightly, the way Leo and Fran do when they catch an interesting smell. She says, "This house is not happy," which unnerves him more than it should. "I used to think that everyone could hear these things." She closes her eyes and takes a deep breath. "Then I realized that it was only me. Some days the only thing I want is silence."

He asks if she has any family. He needs to find someone else who can be responsible for her, who can take her off his hands.

"My brother fucked off to Wales. My dad's got emphysema."

"Your mum?"

"She's got a shitload of her own stuff to deal with."

"You haven't got a boyfriend, a husband?"

"Yeah, right." Another humorless laugh.

He thinks what hard work she must be and wonders how many times she's tried something like this.

"I don't want to be here." She's crying again.

He assumes at first that she is referring to his house and he's relieved. Then he realizes what she means and is scared of what she might do. Fran is out of the armchair, both dogs pacing now, the way they do during storms. He says, "I need a hot drink," and leaves the room, to give himself space to think, mostly.

He puts the kettle on again and leans against the sink. The garden is a mess. A plank is missing from the fence that separates him from the angry Greek couple next door. A football of unknown provenance is dying slowly in the spring grass, which is already too long to mow. He should gravel the whole thing over, get a couple of hardy plants in big tubs, but he doesn't have the energy.

"Why are we still married?" Maria had asked. Companionship? he'd thought. The comfort of sharing your life with someone who knows you better than anyone else in the world? "I'm afraid of being alone," she'd said. "Isn't that terrible?" Though it seemed like a pretty good reason to him.

He's still freezing on the inside. He squats with his back against the radiator. Now that he is out of the woman's presence he can see things more clearly. She tried to kill herself. She hears voices. She needs to go to a hospital. He gets to his feet, quietly retrieves the cordless from the hall table, and gently closes the kitchen door.

"Fifteen minutes," the woman says. He feels warmer suddenly. In a quarter of an hour he can put something in the microwave, bring the duvet down, dig out a box set.

He makes his coffee and returns to the living room. She's hugging the green seashell cushion. "You were a long time."

"Sorry."

She looks at him, hard. "Did you ring someone?"

Does he answer too quickly or too slowly?

"Fucking hell. Who did you ring?"

"Look." He puts the coffee down and sits on the arm of Fran's chair.

"You rang for a fucking ambulance, didn't you. You rang for a fucking ambulance. Jesus. All that being-interested bollocks. Fuck you."

He grabs her arm as she pushes past. "Get your fucking hands off me."

She's in the hall.

"Wait. You need shoes."

She fumbles with the lock, the door opens, and she runs out. He sees the car before she does. The driver hits the brakes hard, the bonnet goes down and the tail rises. A squeal of hard rubber on gritty tarmac which will leave two black marks for months afterward. She turns toward the car, holding up her hands like Moses parting the Red Sea, and it comes to a halt, only inches from her legs, aslant, the tires smoking, as if she were a superhero and this were her power. Then she's gone, down Asham Way in his socks.

The driver gets out. "What the fuck are you playing at? What did you do to her?"

The man doesn't seem real enough to warrant a reply. Nothing seems real. He goes back inside, where the dogs are waiting for him, and reaches the sofa just before his knees go weak with the shock and he is forced to sit down. Both coffees have been knocked over and are soaking into the carpet. The heat from the electric fire stings his lower legs. Leo slides his drooly jaw over the arm of the sofa and he lays his hand flat along the dog's warm flank to calm himself.

He stares at the tatty rainbow of VHS cases, the twelve-year-old Banbury half-marathon medal, the framed photo of Timothy at Wicksteed Park, his rare smile making up for the sun flare bleaching the right-hand side of the picture, the dog-eared postcards propped against the wall, the gap where Maria's porcelain chimney sweep used to sit.

He forgets about the ambulance completely. The male paramedic seems vaguely pissed off by the wasted journey and not quite convinced by his story. He shows him and his female partner the pile of wet clothes on the kitchen floor. "I saved someone's life."

"Hey, buddy, we're all having a tough

day, all right?" The man looks not much older than a student.

The woman gives him a tight little smile, which may or may not be an embarrassed apology on her sour colleague's behalf. She is plump and ginger-haired, her eyebrows almost white.

The man radios in a description of the woman. "Nope. Nothing as helpful as a name."

Perhaps he's asking too much. They save lives every day. Does anyone thank them?

They leave and he returns to the sofa. His body does not feel cold as such, just restless and wrong. He picks up the seashell cushion and hugs it. He sits very still. He can hear the deep, dull sluice of his blood in his ears and behind it, far away, that faint high whine, not really a noise at all, the background radiation of the mind.

He sits and listens.

I'm a stone, I'm a stone, I'm a stone.

For weeks, he pictures her heading straight back to the river. He checks the newspapers, wanting reassurance that his failure wasn't catastrophic. He looks forward to being congratulated at the office for his heroics, then realizes that it will happen only if someone else tells the story and he downplays his involvement. Anyone would have done the same thing. And the heroics aren't important. Something else happened, which he can't put into words and which he might not risk sharing if he could.

Maria comes around to take more of her belongings. He doesn't tell her about the incident. She is buoyant, or acts buoyancy with complete conviction. She says, "I'm worried about you," though how—or whether—this is meant to help he is not sure.

It's true that the house is getting messier and dirtier, but he doesn't have the energy to Hoover and sweep and sponge and tidy. Who, in any case, does he need to impress? He senses the slippery slope beneath his feet but the tingle of fear is not enough to goad him to action.

It becomes obvious to him not just that he is depressed but that he has been depressed for a long time, his low mood so constant that it remained undetected until it was inescapable; he's like a lobster

in a warming pot, claws scrabbling at the metal rim.

He wakes in the middle of the night gasping for air. That cloudy green water. Sometimes it's the woman sinking into the darkness below him; sometimes it's Timothy. Sometimes he's crossing the gantry himself with a rucksack full of stones and he trips and falls into the foam while Maria stands on the bank with the dogs and does nothing. Occasionally he lets himself fall willingly and feels a moment of easeful bliss midair, before he realizes what is going to happen to him under the water, and this is the most frightening dream of all.

She turns up at the front door on a Saturday afternoon three weeks later. He doesn't recognize her at first. She's dressed for the office: cream blouse, charcoal jacket and trousers, hair scraped back.

"I came to get my clothes." It is the surliness that gives her away. "If you've still got them."

He can't conceal his joy. "I'm glad you're O.K."

She nods carefully, as if she can think of no reason that she shouldn't be O.K. Maybe trying to take your own life is not something you want to be reminded of. She waits outside the door while he fetches the bag.



"You washed them. Wow."

"As opposed to leaving them wet all this time?"

"I guess." There is no mention of his own sweatshirt and tracksuit trousers and socks. "Cheers, anyway."

"You never told me your name." He doesn't want her to leave, not yet.

She pauses and says, "Kelly," with just enough wariness for him to wonder whether she has pulled the name out of thin air.

"Do you want a cup of coffee?"

"That's kind of weird."

"Not here. In a café, maybe." As if she really would be at risk coming into the house.

"I've got to get going."

"I have a son." He doesn't talk about Timothy to anyone. "I haven't heard from him for three years. I haven't seen him for seven."

"And?" Her expression doesn't change.

"I don't know if he's alive or dead."

She has a silent discussion with herself for a few seconds, then nods. "Ten minutes, all right? But don't go all strange on me."

She is prickly company on the walk to Starbucks and not much easier over a cup of tea and a Danish pastry. He tells her about Maria leaving. She tells him that she works for the Parking and Permits Office at the council. He tells her about Timothy. She tells him about her father going into the John Radcliffe. Neither of them mentions what happened in the river. Ten minutes becomes half an hour. Reluctantly, she gives him her mobile number before she leaves, but, to his surprise, it is she who sends him a text the following week, saying, "I suppose you'd like another coffee."

"Friends" is the wrong word. She's twenty-four; he's fifty-three. Maybe there isn't a right word. On a couple of occasions, they are seen by acquaintances or colleagues, who look away as if he were engaged in some kind of moral turpitude. She finds it funny, so he decides to find it funny.

She never does thank him for saving her, and slowly he realizes that thanks is not what he wants or needs. She tells him about her family, for which her description, "fucked up," is something of an understatement, and about her antagonistic relationship with the medical profession, her patchy employment record, the law degree she never finished, the shitty boyfriends she chose because their opinion of her chimed with her own, the kind boyfriends whose sympathy and patience made them insufferable. She talks about the voices and the changing drug regimens, which keeps them temporarily at bay. She tells him how the voices torment her and how flat the world seems when she can't hear them.

For years. Once a fortnight or thereabouts. He tells her about the divorce and Maria's remarriage, to a man nine years her junior, about a series of Internet dates, which range from the bizarre to the slightly sordid to the very nearly but not quite right. He tells her about the melanoma on his back, which he discovers late and which scares the living daylight out of him for the best part of six months.

She never passes judgment or tries to cheer him up. It irritates him at first, but he begins to understand that both of these things are ways of steering someone away from the things you don't want to hear. She listens better than anyone he knows. Or maybe it's just that she doesn't interrupt. And maybe that's enough.

She rotates among Danish pastry, almond croissant, and millionaire's shortbread. The tea is a constant. Him paying, ditto. Though for a couple of months, when she's going through what she refers to as "a particularly shitty patch," they have to relocate to the café at the Warneford Hospital. Sometimes she is unforthcoming and ill-tempered. Sometimes they simply sit in each other's company like an old married couple or two cows in a pasture. Companionship, though not in a way he'd pictured it. There are periods when she feels suicidal, though discussing her plans in gruesome detail seems to calm her, and she always reappears for their next meeting.

He still wonders sometimes if Kelly is her real name.

Four years after he fished her out of the river, Timothy comes home, older and thinner and bearded, with everything he owns squeezed into a single kit bag. Ian's relief rapidly gives way to the disappointed realization that his son is not very different from the young man who went away all those years ago, and that he has returned not to heal wounds or build bridges but because there was a fire at the house he was looking after over the winter for a wealthy couple in Majorca, the details of which are clearly more complicated than his version suggests. Timothy is alternately distant and manipulative and, unexpectedly, it is Maria who suffers the most, feeding him and buying him clothes and letting him stay in her spare



room until her new husband delivers the inevitable ultimatum. She loans Timothy a thousand pounds for a security deposit on a flat and the first month's rent, and three days later he's gone.

"Wow," Kelly says.

"I feel like an idiot. All those years, I imagined this Hollywood homecoming. Him being sorry, us being overjoyed. And now I know it's never going to happen."

They sit quietly for a long time.

He says, "I'm going to do the garden. I'm sick of looking out onto a piece of wasteland."

He does the garden. He cuts the grass. He lays gravel over black plastic. Tubs, a couple of New Zealand ferns, a bench. He mends the fence and creosotes it. He buys a bird table and puts out seeds and crusts and little chunks of fat. And when he thinks about Timothy now it doesn't hurt so much.

Leo dies. He is fifteen. Fran takes to her basket two months later and is dead within the month. She, too, is fifteen. Liver cancer, the vet says, though Ian knows it was heartbreak. They've had good, long lives. And, in any case,

he has arthritis in both hips now, and walking them had become increasingly difficult.

He says, "I feel lonely."

"Yeah?" She sips her tea.

He says, "I'm getting old."

She says, "I guess you are."

He says, "I'm frightened of dying," though just saying it out loud like that takes some of the sting out of it.

She says, "I'll come to your funeral."

He says, "They'll wonder who you are."

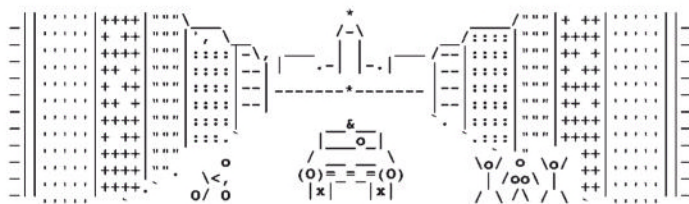
She says, "I'm sure they will."

He still dreams of the river, the thunder of the weir, the currents unfurling downstream. May blossom and cirrus clouds. He is no longer drowning. No one is drowning. Though they will all go down into the dark eventually. Him, Maria, Kelly, Timothy. . . . And the last few minutes may be horrible, but that's O.K., it really is, because nothing is lost and the river will keep on flowing and there will be dandelions in spring and the buzzard will circle above the wasteland. ♦

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THE CRITICS



A CRITIC AT LARGE

THE ELVIC ORACLE

Did anyone invent rock and roll?

BY LOUIS MENAND

In 1968, when Patti Smith was twenty-one and working in a Manhattan bookstore, she went to a Doors concert at the old Fillmore East. She loved the Doors. As she described the concert in her memoir “Just Kids,” everyone was transfixed by Jim Morrison, except for her. She found herself making a cold appraisal of his performance. “I felt,” she concluded, “that I could do that.” For many people, that response is the essence of rock and roll.

To this way of thinking, rock and roll—the music associated with performers like Chuck Berry, Little Richard, Buddy Holly, and the early Beatles—is music that anyone can play (or can imagine playing) and everyone can dance to. The learning curve for performing the stuff is short; the learning curve for appreciating it is nonexistent. The instrumentation and the arrangements are usually simple: three or four instruments and, frequently, about the same number of chords. You can add horns and strings and backup singers, and you can add a lot more chords, but the important thing is the feeling. Rock and roll feels uninhibited, spontaneous, and fun. There’s no show-biz fakery coming between you and the music. As with any musical genre, it boils down to a certain sound. Coming up with that sound, the sound of unrehearsed exuberance, took a lot of work, a lot of rehearsing. No one contributed more to the job than Sam Phillips, the founder of Sun Records, in Memphis, and the man who discovered Elvis Presley.

In twenty-first-century terms, Phillips was an industry disrupter. He had a regional business, little access to capital, and no reliable distribution system for his product. He recorded a style of music that the major record companies—there were six of them when he started out, and they dominated the national market—had deemed unprofitable. But he helped identify an audience, and that audience transformed the industry and the nature of popular music.

In the beginning, Phillips had not planned to run a record company. He was born, in 1923, in a small place in Alabama called Lovelace Community, not far from Muscle Shoals. His father was a flagman on a railroad bridge over the Tennessee River. Phillips got his start in radio, working in Decatur and Nashville, and, finally, in 1945, making it to Memphis, his version of what Paris was for Ernest Hemingway and Gertrude Stein. In January, 1950, he opened the Memphis Recording Service, in a tiny space on Union Avenue, just a block away from Beale Street, the heart of the Memphis music scene. (The building still stands, now a National Historic Landmark.)

“We Record Anything—Anywhere—Anytime” was the slogan. This meant a lot of church services, weddings, and funerals, but Phillips’s dream, the reason that he set up the studio, was to have a place where any aspiring musician could come in and try out, no questions asked. Phillips would lis-

ten and offer suggestions and encouragement. If he liked what he heard, he would record it. For a fee, the performer could cut his or her own record.

Phillips was extremely good at this. He was patient with the musicians; he was adept with the technology; above all, he was supportive. He hated formulas. He thought that music was about self-expression, and he liked songs that were different. The pop sound in 1950 was smooth and harmonic. Phillips preferred imperfection. It made the music sound alive and authentic. Word got around, and musicians no one else would record started turning up at the Memphis Recording Service. Phillips got them to believe in him by getting them to believe in themselves.

To have the recordings pressed and distributed, he relied on small independent labels like Modern Records, in Los Angeles, and Chess, in Chicago. But he found the men who ran those outfits untrustworthy—he felt that they were always trying to poach his artists or cheat him on royalties—and so, in 1952, he started up his own label, Sun Records.

Phillips rarely scouted for artists. Sun was designed as a walk-in business. And amazing performers walked in, some on their own, some referred by other musicians. By 1958, Phillips had produced sides by a major-league roster of talent. He was the first to record, besides Elvis, B. B. King, Howlin’ Wolf, Ike Turner, Carl Perkins, Johnny Cash, Jerry Lee Lewis, and Roy Orbison. He produced and released songs that people born decades afterward still play in their heads while doing the dishes: “Mystery Train,” “Blue Suede Shoes,” “Folsom Prison Blues,” “I Walk the Line,” “Ooby-Dooby,” “Whole Lotta Shakin’ Going On,” “Great Balls of Fire.” That’s a plausible soundtrack at Starbucks more than half a century later.

Still, despite commercial success, Phillips continued to lose his artists, this time to major record labels, like Columbia and RCA Victor, and, around 1960, he more or less gave up producing. A wealthy man, he disappeared from the music scene for almost twenty years. When he reëmerged, he devoted some of his time to creating new radio stations but most of it—he died in



Sam Phillips and Elvis Presley at Sun Records, in Memphis, December 4, 1956.

2003—to burnishing his legend. Peter Guralnick's "Sam Phillips: The Man Who Invented Rock 'n' Roll" (Little, Brown) is an interesting contribution to the self-promotion project.

The book is a labor of love. Guralnick is an eminent authority on rock and roll and related musical styles. He is passionate about the music, but he doesn't let his passion overinflate his prose, and he seems to know everything about everyone who was part of the Southern music world. He is best known as the author of a classic and probably unsurpassable two-volume biography of Presley, "Last Train to Memphis" (1994) and "Careless Love" (1999). He spent many years trying to get an interview with Phillips. Finally, in 1979, the year Phillips decided to come out of hibernation, he succeeded. It turned out to be worth the wait, and not only professionally. "Meeting Sam for me was a life-changing event," Guralnick says.

Phillips and Guralnick became friends, although it was a Yoda-Luke sort of relationship, which appears to have been the sort of relationship Phillips was most comfortable with. He was always a great talker. In his later years, and with a glass of vodka in hand, he seems to have been a verbal Niagara. He told Guralnick how it was, and Guralnick wrote it down (or taped it).

In some respects, therefore, "Sam Phillips" is the memoir that Phillips never wrote. The book adopts a down-home slash mythomaniacal voice that is presumably meant to capture Phillips at his most loquacious:

And it came to him in that moment that this could be his calling: not just the righting of wrongs but the study of humanity, in all its diversity, in all of the multitude of its manifestations.

In the opening pages, Phillips is equated with Walt Whitman, William Faulkner, Mark Twain, and Michelangelo. Even in a eulogy, it would seem a little much. When our hero's patronage of the local brothel is described as a humanitarian act in support of women down on their luck—women who, if not for such patronage, might have had to turn to...what? cleaning houses?—you know you are not reading a conventional biography.

But Guralnick understands his subject, and, after a while, you pick up on the subtext. Phillips had a genuine feel for a kind of music that was, in a Southern context, slightly asymmetrical to his own race and class. He liked the blues, and his liking of the blues was bound up with progressive views on race relations. He really did believe that by recording B. B. King and Howlin' Wolf—and many other African-American musicians, most of them now largely forgotten—he was doing God's work. He respected his musicians as artists and as people; he identified with their travails; and he threw himself into the job of getting their music out.

Personally, as becomes clear in the course of the biography, he could be self-centered to the point of coldness. He made it a principle never to let other people's feelings stand in his way. As a number of witnesses explained the deal to Guralnick, Sam was Sam; he did what he wanted to do. He was a good-looking man. Women fell for him, and he did not demur. He had several long-term mistresses with whom he lived publicly, though he remained married to the same woman his whole life. At some point, he simply moved her into a house of her own, so that he could live with his girlfriend. That girlfriend had to wait out other public affairs later on. All the women seem to have remained loyal, including his wife.

Phillips was also not a very good businessman. Other independent labels, like Atlantic, managed to keep their artists and to thrive well into the nineteen-sixties. Phillips got out of the business just as the pop-music revolution that he helped make happen was starting to cash out in a big way. Even if he had just kept running the studio, he would have had plenty of work. FAME Studios, which was founded in Florence, Alabama, in 1959 and moved to Muscle Shoals in 1961, recorded huge hits by artists like Arthur Conley ("Sweet Soul Music"), Wilson Pickett ("Mustang Sally"), Percy Sledge ("When a Man Loves a Woman"), and Aretha Franklin ("Chain of Fools"). But Phillips, after losing virtually all of his original hit-makers, was convinced that the majors would always stick it to the little guy, and had largely dropped out. A sound he did much to

develop conquered the world through work done by other hands.

As for the mythomania: it seems that, basically, you just gotta love it. Phillips could be petty about insisting on credit for various things, but he was an outsized personality. Putting up with a little grandiosity, and some occasional cornball wisdom, came with the territory. He was one of those people with whom, if you are willing to play by their rules when you are in their house, everything is better than good.

The subtitle of Guralnick's book should probably be read in quotation marks. "The man who invented rock and roll" is a phrase that Phillips wanted to be remembered by, and the label has stuck. Guralnick suggests that it might be more accurate to call him "the man who discovered rock and roll." But even that seems misplaced, not because Phillips wasn't in the yolk of the egg, which he was, but because how the egg got hatched is still a mystery.

Rock and roll is usually explained as rhythm-and-blues music—that is, music performed by black artists for black listeners—repurposed by mostly white artists for a mostly white audience. How do we know this? Because that's the way the industry trade magazine *Billboard* represented it.

Billboard started charting songs in 1940. By 1949, it was publishing charts in three categories: pop, country-and-Western, and (a new term, replacing "race music") rhythm and blues. Every week, in each category, there were lists of the songs most frequently sold in record shops, most frequently requested in jukeboxes, and most frequently played by disk jockeys. (These rankings were all relative; actual sales figures were proprietary.)

The charting system was predicated on a segregated market. How did *Billboard* know when a song was a rhythm-and-blues hit, and not a pop hit? Because its sales were reported by stores that catered to an African-American clientele, its on-air plays were reported by radio stations that programmed for African-American listeners, and its jukebox requests were made in venues with African-American customers. Black artists could have pop hits. The Ink Spots, a black quartet, had fourteen

songs in the Top Five on the pop chart between 1939 and 1947. That was because their songs were marketed to whites.

The foundation on which this scheme rested was obviously extremely shaky, and several industry developments made it even shakier. One was the rise of the local radio station. Before the nineteen-forties, radio was dominated by national broadcast networks like CBS, NBC, and Mutual. As a consequence of an F.C.C. policy designed to break up this oligopoly, the licensing of local stations increased from around eight hundred in 1940 to more than two thousand in 1949. By 1950, the radio stations most people were listening to were local. And everyone listened. Ninety-six per cent of homes in the United States had a radio.

One article of faith in the music business is that repetition is a key to sales. The more often people hear a song, the more they feel the need to buy it, and radio was one way to lodge a song in people's heads. Jukeboxes were another. By 1940, there were close to half a million jukeboxes in the United States. This is why d.j. and jukebox plays were charted in *Billboard*: they were market indicators. A song that was played a lot could be predicted to sell a lot, so distributors and retailers took notice.

Jukeboxes and local radio stations allowed the music audience to segment—a key development in a racially divided society. A third of the population of Memphis was African-American, for example, and so a small local station could survive profitably with programming for African-American listeners. In fact, the first station with all-black programming in the United States (it was owned by whites) was in Memphis: WDIA, which began broadcasting, at two hundred and fifty watts, in 1949. B. B. King started his career there, as a disk jockey and on-air performer.

The major record companies got out of the “race music” business in the nineteen-forties. But the spread of jukeboxes and the success of local radio showed that the market, though small, was still there. As if on cue, a swarm of independent labels arose to manufacture and sell rhythm-and-blues

records: Specialty, Aladdin, Modern, Swingtime, and Imperial (all in Los Angeles—for a time, oddly, the capital of R. & B.), King (Cincinnati), Peacock (Houston), Chess (Chicago), Savoy (Newark), Atlantic (New York), and many more. All those labels were established between 1940 and 1950. Phillips actually came late to the party.

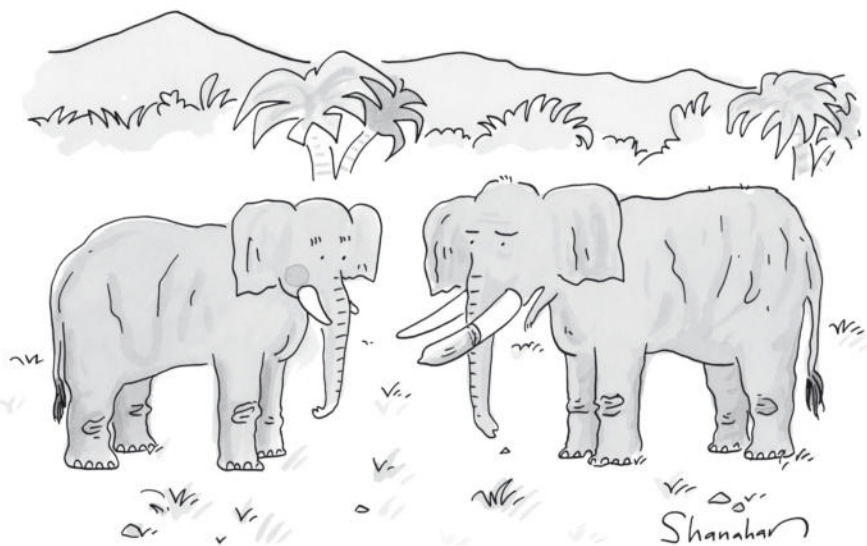
Rock and roll became possible when it started to dawn on people that not everyone buying R. & B. records or listening to R. & B. songs on the radio was African-American. In 1952, the year Phillips launched Sun, forty per cent of R. & B. record buyers at the Dolphin Record Store, in L.A., were white. The year before, a classical-music d.j. in Cleveland, Alan Freed, had been astonished to see white teenagers eagerly buying R. & B. records at a local record shop, and he started following his “quality music” program with a show devoted to R. & B. In 1954, Freed moved to WINS, in New York. He was one of the first people to call R. & B. music listened to by white kids rock and roll—a key move in repositioning the product.

By the time Sun opened for business, it was obvious that many white teen-agers wanted to listen to R. & B. Sam Phillips knew it, but, as Guralnick says, *everybody* knew it. The problem was not how to create the market but how to exploit it. Phillips is supposed to have gone around say-

ing, “If I could find a white man who had the Negro sound and the Negro feel, I could make a billion dollars.” In an unsympathetic biography of Presley, published in 1981, Albert Goldman has Phillips referring to “the nigger sound”; Guralnick makes it clear that Phillips didn’t talk or think that way. And Guralnick is confident that Phillips didn’t talk about the music in terms of getting rich, either.

Still, it raises an interesting question. Phillips had had success in 1951 with a song called “Rocket 88” (the title refers to a model of automobile), performed by Ike Turner’s band and sung by Jackie Brenston, who became the headliner (much to Turner’s annoyance). The band had damaged an amplifier on the way to the studio, so it buzzed when music was played. Phillips considered this a delicious imperfection, and he kept it. That is the sound that makes the record, and many people have called “Rocket 88” the first rock-and-roll song. (I guess some song has to be the first.) But “Rocket 88” was performed by a black group. Why, if white kids were already buying records by black musicians, did the breakthrough performer have to be white?

The answer is television. In 1948, less than two per cent of American households had a television set. By 1955, more than two-thirds did. Prime time in those years was dominated by variety shows—hosted by people like Ed Sullivan, Steve Allen, Milton Berle,



“Well, I had ‘the talk’ with him.”

and Perry Como—that booked musical acts. Since most television viewers got only three or four channels, the audience for those shows was enormous. Television exposure became the best way to sell a record.

On television, unlike on radio, the performer's race is apparent. And sponsors avoided mixed-race shows, since they were advertising on national networks and did not want to alienate viewers in certain regions of the country. Nat King Cole's television show, which went on the air in 1956, could never get regular sponsors. Cole had to quit after a year. "Madison Avenue is afraid of the dark," he said.

The stage was thus set for Elvis Presley. Presley was a walk-in. He showed up at the Memphis Recording Service in the summer of 1953, when he was eighteen, to make a record for his mother. (At least, that's the legend.) He paid four dollars to record two songs, "My Happiness," which had been a hit for several artists, including Ella Fitzgerald, a few years earlier, and "That's When Your Heartaches Begin," an old Ink Spots song. Whether Phillips was in the booth that day or not later became a matter of acrimonious dispute (he insisted that he was), but someone wrote next to Presley's name, "Good ballad singer. Hold."

A year later, Phillips invited Presley back to try out a ballad he'd discovered. The song didn't seem to work, and Phillips had Presley run through all the material he knew, any song he could remember. After three hours, they gave up. But Phillips thought of putting Presley together with a couple of country-and-Western musicians—Scotty Moore, an electric guitarist, and Bill Black, who played standup bass—and invited the three of them to come to the studio.

They began their session with a Bing Crosby song called "Harbor Lights," then tried a ballad, then a hillbilly (or country) song. They did multiple takes; nothing seemed to click. Everyone was ready to quit for the night when, as Elvis told the story later, "this song popped into my mind that I had heard years ago and I started kidding around."

The song was "That's All Right,"

an old R. & B. number, written and recorded by Arthur Crudup. "Elvis just started singing this song, jumping around and acting the fool, and then Bill picked up his bass, and he started acting the fool, too, and I started playing with them," Scotty Moore recalled. Phillips stuck his head out of the booth and told them to start from the beginning. After many takes, they had a record.

Phillips had become friendly with



a white disk jockey, Dewey Phillips, who played some R. & B. on his show, on WHBQ, in Memphis. (Becoming friendly with d.j.s who played the kind of music you recorded was basic industry practice. Leonard Chess, of Chess Records, used to have a trunk full of alligator shoes when he drove around visiting local d.j.s. He'd ask for their shoe size and gift them a pair.) Sam gave the recording to Dewey, and Dewey played it repeatedly on his broadcast. It was an overnight sensation.

To make a record that people could buy, they needed a B-side. So, the next day, Presley, Moore, and Black recorded an up-tempo cover of a bluegrass song called "Blue Moon of Kentucky," and, in July, 1954, Elvis Presley's first single came on the market. In Sun's promotional campaign, Phillips emphasized the record's "three-way" appeal: to pop, hillbilly, and rhythm-and-blues listeners.

The point was that Elvis was not a pop singer who covered R. & B. and country songs. Plenty of pop singers did that. Elvis was a crossover artist. "Operators have placed ["That's All Right"] on nearly all locations (white and colored) and are reporting plays seldom encountered on a record in recent years," Phillips announced in a press release. "According to local sales analysis, the apparent reason for its tremendous sales is because of its appeal to all classes of record buyers." The press bought the theory that Elvis was unclassifiable in conventional terms.

"He has a white voice, sings with a Negro rhythm, which borrows in mood and emphasis from country styles," a Memphis paper explained.

Presley's next two singles on Sun didn't have much success. He finally made it onto the national country-and-Western chart in July, 1955, with "Baby Let's Play House." In September, his cover of "Mystery Train," a song that Phillips had recorded two years earlier with Junior Parker, the black singer who wrote it, made the Top Ten on *Billboard's* country-and-Western chart. Guralnick says it was Phillips who persuaded Junior Parker that the train should have sixteen coaches. "Mystery Train," Phillips told Guralnick, was "the greatest thing I ever did on Elvis. I'm sorry. It was a fucking masterpiece." Two months later, he sold Presley's contract to RCA Victor for thirty-five thousand dollars.

Presley was made for television. Offstage, he was bashful and polite, but, with a microphone and in front of an audience, he was a gyrating fireball with an unbelievably sexy sneer. He loved to perform. He made his first national television appearance on Jimmy and Tommy Dorsey's "Stage Show," on CBS, in January, 1956. His big television moment came a few months later, though, when he sang back-to-back versions of "Hound Dog," the second time with full range of pelvic motion, on Milton Berle. Forty million people watched his performance, and that summer "Hound Dog" and its flip side, "Don't Be Cruel," went to No. 1 on all three *Billboard* charts. The rest is history.

But let's rewind the tape. Originally, Phillips never had any idea of using Presley to cover an R. & B. song. He called him in as a ballad singer, and that is what Presley always believed he essentially was. Presley's favorite among his own songs was "It's Now or Never." The song is not bluesy, and it's not rock and roll. It's Neapolitan. Musically, "It's Now or Never" is a cover of "O Sole Mio."

When Phillips decided to bring in two white musicians, Moore and Black, to back Presley, he had them try pop and country songs. "That's All Right" began as a joke. Moore and Black

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"He either has a great hand or I have unresolved feelings about my mother."

thought the song was a joke, too. It worked, but it seems to have been completely unpremeditated.

"That's All Right" did not make the national charts. It was a regional hit. Its reception sent a signal that "a white man singing black" excited listeners, but Presley didn't make it to the big time for another year. By then, as Elijah Wald points out in his recent revisionist history of popular music, "How the Beatles Destroyed Rock 'n' Roll," white performers and producers had stopped recasting R. & B. songs in a pop style and had started imitating them. Producers knew where the new sound was headed.

Rhythm and blues was hot. By 1954, the all-black-programming WDIA had become a fifty-thousand-watt station reaching the entire mid-South. A year later, there were more than six hundred stations, in thirty-nine states, that programmed for black listeners. When the young Pat Boone walked into the studio at Dot Records, in Gallatin, Tennessee, in the summer of 1955, he was shocked to be asked to sing an R. & B. song. Like Presley, Boone saw himself as a ballad singer. But he recorded Fats Domino's "Ain't That a Shame,"

and it went to No. 1 on the pop chart. The same summer, Bill Haley's "Rock Around the Clock" became a No. 1 song after it was heard in the movie "Blackboard Jungle."

African-American performers began to benefit from the popularity of the new sound. In May, 1955, Chuck Berry recorded "Maybellene" for Chess Records; Chess rushed the record to Alan Freed, in New York, and it went to No. 1 on the R. & B. chart and No. 5 on the pop chart. Little Richard's "Tutti Frutti" was released a few months later. By January, when Presley was beginning to appear on television, it had reached No. 17 on the pop chart. In 1954, only three per cent of songs on the pop retail chart were by African-American artists; in 1957, it was nearly thirty per cent. That was unprecedented.

Presley quickly covered "Tutti Frutti." So did Pat Boone, who, in the nineteen-fifties, was second in record sales only to Presley. An aspiring English teacher, Boone insisted on announcing his first big hit onstage as "Isn't That a Shame." He did not, even remotely, "sound black." But, from an industry point of view, he brought re-

spectability to the material. He helped make R. & B. the new pop. In 1956, seventy-six per cent of top R. & B. songs also made the pop chart; in 1957, eighty-seven per cent made the pop chart; in 1958, it was ninety-four per cent. The marginal market had become the main market, and the majors had got into the act.

When we look back at this history, the best conclusion seems to be the one reached by the sociologist Philip Ennis in his valuable analysis of popular music, "The Seventh Stream" (1992). "Did the music industry force-feed teenagers into the acceptance of rock and roll?" Ennis asked. "To the contrary, it was almost the reverse." White listeners began consuming a style of music that had not been manufactured for or marketed to them. The d.j.s and the record companies were only scrambling to meet the demand. That demand seems to have sprung up everywhere—in Cleveland and Memphis, in Los Angeles and New York—and all at once. If advertising and promotion didn't bring about this phenomenon, what did?

It's tempting to interpret it as a generational rebellion against a buttoned-up, conservative domestic culture, but this is almost certainly a retrospective reading, created by looking at the period through the lens of the nineteen-sixties. Folk songs had a message, and some sixties rock songs had a message. Rock and roll did not have a message, unless it was: "Let's party (and if you can't find a partner, use a wooden chair)." Or maybe, at its most polemical, "Roll over, Beethoven." But it was music intended for young people, and this was the distinctive thing.

In order for a music for young people to come into being, young people have to have a way to play it. The jukebox was one delivery mode: kids could listen to the music in a diner or an ice-cream shop, someplace outside the home and in the company of other kids. More significant, as Ennis points out, were several inventions. The 45-r.p.m. record—the single—was developed by RCA and marketed in 1949. Soon, RCA introduced a cheap plastic record player, which played only 45s and sold for twelve ninety-five.

This meant that teen-agers could play “their” music out of their parents’ hearing. They did not have to listen in the living room on the family phonograph.

In 1954, transistor radios came on the market. Kids could now carry the music anywhere, including to school. A robust national economy in the United States after 1950 meant that teen-agers were staying in school longer than they had in the nineteen-thirties or during the war years. High school became an important social space. Material conditions therefore existed for a quasi-autonomous “teen culture,” and rock and roll beautifully fit the bill.

It has also been tempting to make sense of the rise of rock and roll as somehow related to the civil-rights movement, whose origins date from the same period. White enthusiasm for R. & B. music looks like a cultural indicator of future changes in race relations. This, too, seems largely a retrospective reading. The music of the movement was gospel, not pop or rhythm and blues.

In fact, the racialization of the rock-and-roll story, which continued after the nineteen-fifties in the form of charges that white artists had appropriated an African-American art form, is a simplification. It’s based on the idea that there is or was a “black” sound or a “black” musical style. That idea is an artifact of the old *Billboard* charting system, which was premised on just such an assumption. When you get down to cases, the racial elements become complicated very quickly.

Take “Hound Dog,” one of Presley’s biggest hits. It was originally released by a black R. & B. singer named Willie Mae (Big Mama) Thornton, in 1953, and went to No. 1 on the national R. & B. chart. But Thornton didn’t write the song. It was written by a couple of Jewish teen-agers living in L.A., Jerry Leiber and Mike Stoller, on commission from the producer Johnny Otis, who was recording Thornton for Peacock Records. It took them about fifteen minutes to compose it.

Leiber and Stoller thought they had written a raunchy blues number, but when they brought it into the studio Thornton insisted on crooning it. Leiber had to sing it for her so she could hear how it was supposed to go.

When she was ready to record it, the drummer wasn’t making the right sound, so Otis played the drums himself (and also took co-writing credit). Otis always considered himself part of the African-American community, but in fact he was the son of Greek immigrants; his real name was John Veliotes.

Presley needed thirty-one takes to record “Hound Dog.” He didn’t cover Big Mama Thornton’s version, though. He had decided to record the song after hearing it performed by an all-white Las Vegas lounge act called Freddie Bell and the Bellboys, who had rewritten the lyrics to turn “Hound Dog” from a song about a lover who won’t go away to a song about, actually, a dog. It was a gag number, and that’s how Elvis performed it. When he sang it on “The Steve Allen Show,” Allen brought a basset hound onstage and Presley sang to the dog. Whatever sexual innuendo a couple of white songwriters had invented and had managed to persuade an African-American singer was in the lyrics had been completely erased.

The flip side of Presley’s “Hound Dog” single, “Don’t Be Cruel,” is completely different, a doo-woppy, country-sounding song. “Don’t Be Cruel” was written by Otis Blackwell, who later gave Presley two more songs with the same sound, “Return to Sender” and “All Shook Up.” Blackwell was African-American.

All history is retrospective. We’re always looking at the past through the lens of later developments. How else could we see it? We are ourselves, as subjects, among those later developments. It’s natural for us to take events that were to a significant extent the product of guesswork, accident, short-term opportunism, and good luck, and of demographic and technological changes whose consequences no one could have foreseen, and shape them into a heroic narrative about artistic breakthrough and social progress. But a legend is just one of the forms that history takes—which is why it’s good to have Guralnick’s book. ♦

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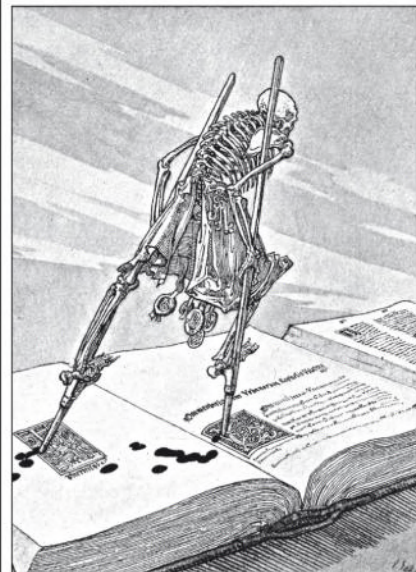


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SILENT PARTNER

What do Nabokov's letters conceal?

BY JUDITH THURMAN

*Amid marital discord, Vladimir wrote to Véra, "I forbid you to be miserable."*

Véra and Vladimir Nabokov were married for fifty-two years—a record, apparently, among literary couples—and their intimacy was nearly hermetic. When they were apart, he pined for her grievously. She was his first reader, his agent, his typist, his archivist, his translator, his dresser, his money manager, his mouthpiece, his muse, his teaching assistant, his driver, his bodyguard (she carried a pistol in her handbag), the mother of his child, and, after he died, the implacable guardian of his legacy. Vladimir dedicated nearly all his books to her, and Véra famously saved “*Lolita*” from incineration in a trash can when he wanted to destroy it. Before they moved from a professor’s lodgings in Ithaca, New York, to a luxury hotel in Switzerland, she kept his house—“terribly,” by her own de-

scription—and cooked his food. She stopped short of tasting his meals when they dined out, but she opened his mail, and answered it.

According to Véra’s biographer, Stacy Schiff, her subject had such a fetish for secrecy that she “panicked every time she saw her name in [Vladimir’s] footnotes.” It seems inapt to call Véra’s love selfless, however: the two selves of the Nabokovs were valves of the same heart. And extravagant devotion may sometimes be the expression of vicarious grandiosity. Schiff’s biography won a Pulitzer Prize in 2000, and Véra’s name has since entered English as an eponym. Last year, an article on *The Atlantic*’s Web site concluded that the luckiest scribes are those married to “a Véra,” a spouse of either sex who liberates them from life’s mundane chores; the less fortunate long for

a Véra between loads at the laundromat. There is also the option of a paid Véra, for writers of means—or of scruples.

“*Letters to Véra*,” the first complete volume of Nabokov’s letters to his wife, was published by Knopf this month. A lifetime of scholarship informs this massive tome, which was edited and translated from the Russian by Olga Voronina and Brian Boyd, Nabokov’s definitive biographer. Its heft, however, is grossly lopsided. The period between 1923, when the couple met, and 1940, when they escaped with their six-year-old son, Dmitri, from France to New York, generated four-fifths of the correspondence. The remaining thirty-seven years, until Nabokov’s death, fill barely eighty of five hundred pages. (There are two hundred and sixty-eight additional pages of appendices and endnotes.) Because all but one of his novels in English were composed in America—“I’m an American writer,” he insisted when he was asked to define his literary identity—the most fertile decades of his career, and of Véra’s midwifery, play out offstage.

We do get a self-portrait of the young Vladimir unvarnished by Nabokovian irony. The earliest letters, intoxicated with language and desire, are intoxicating to read. A ball rolls under a chair, the only furniture in a room: “things seem to have some sort of survival instinct.” Trying to quit cigarettes, Nabokov imagines the angels smoking in Heaven like guilty schoolboys. When the archangel passes, they throw their cigarettes away, and “this is what falling stars are.” From Paris, he describes the Métro: “It stinks like between the toes and it’s just as cramped.”

Nabokov’s ambition, as a young man, was to give Véra “a sunny, simple happiness,” a rare enough commodity for Russians of their generation. They were born three years apart—he in 1899, she in 1902—and they spent their youth outrunning the murderous upheavals of the twentieth century. Many of their compatriots lost their bearings, and would never recover. But each of them found a lodestar in the other.

Véra Evseevna Slonim was born into a rich Jewish family that fled St. Petersburg during the Revolution and settled in Berlin, the de-facto first capital of the anti-Bolshevik diaspora. She was pale and fine-boned, with the huge eyes of a waif.

Her elegance in speech and dress rivalled that of her husband. He liked to joke that he had turned her hair white prematurely; it gave her an ethereal aura that belied her toughness. Véra's character, Vladimir told her, was made of "tiny sharp arrows."

After the Slonims reached Berlin, Véra's father, a lawyer, founded a publishing house. It was one of eighty-six that served a community of half a million émigrés who were religious about their Russian-ness. Véra worked in the office. She and her two sisters had been polished and educated to a high standard, mostly at home. "They were raised to be perfect," a nephew recalled. To be perfect was to marry well. In the meantime, she taught English and translated from several languages. Some of her work was published in the journal *Rul*, the most prestigious of the outlets for writers in exile. One of its star contributors was a young aristocrat, ladies' man, chess player, dandy, and lepidopterist who was earning his living as a private tutor. He signed his poetry with the pseudonym V. Sirin, but literary insiders, including Véra, knew his real name.

On May 8, 1923, Véra Slonim and Vladimir Nabokov met at a charity ball, or so he recalled. Schiff sets their meeting on a bridge, "over a chestnut-lined canal." All accounts, including Véra's, agree that she was hiding her features behind a black harlequin mask that she refused to lift as they meandered through the city to the Hohenzollernplatz, rapt in conversation. The mask suggests audacious premeditation. Had Véra "ac-costed" Sirin, as Boyd describes it? Was this an audition for which she had studied the role? And had she come with the "venerating expectation" that George Eliot attributes to Dorothea Brooke before her first meeting with Casaubon?

Nabokov later told his sister that Véra had indeed arranged the encounter. Véra refused to speak for herself to posterity. But she did admit to having memorized Sirin's verse, including his love poems to another woman, and she recited it to him in a voice that he found "exquisite." The writer was seduced with his own words. They were married two years later.

On the evidence of these letters, no couple ever enjoyed a more perfect complicity. In his very first sentence, Vladimir tells Véra, "I won't hide it. I'm so unused to being—well, understood." In

1924, he reflects, "You know, we are terribly alike." And a few months later: "You and I are so special; the miracles we know, no one knows, and no one loves the way we love." He was ready to give her "all of my blood." Through their decades of vicissitudes, he referred to their marriage as "cloudless"—even to his mistress.

As the years pass, however, and the "radiance" of his passion dims, Nabokov is increasingly consumed with practical matters. By the nineteen-thirties, he seems too preoccupied to take pains with his style. For a writer who labored over his prose, that negligence—hasty sentences full of repetition—may be just a little luxury, like his cigarettes, that he knew Véra would indulge. But the substance has changed, too. There is less about his art, except for the effort to publish it, and more about his digestion. He struggles as a stateless person to obtain visas, and "our letters," he laments, degenerate into "bureaucratic reports." Long passages are devoted to his social rounds, a recitation, for the most part, of obscure Russian names. Perhaps Nabokov did not wish to trouble his "Pussykins" with unpleasanties like the rise of Fascism; he mentions Hitler exactly twice. On April 7, 1939, the day Mussolini invaded Albania, Nabokov is strolling in a London park, where the yellow pansies "have Hitler faces." A few days later, he spends a morning with a fellow-lepidopterist. "We talked about everything, starting with the genitalia of *Hesperiidae*"—a genus of butterfly—"and ending with Hitler."

Boyd and Schiff both drew upon these letters for their biographies, so they contain few surprises, except for the revelation—a disconcerting one, for a lover of Nabokov's fiction—that he could be a bore. Here, for example, he prepares for a reading in Paris:

I had a great shave and began to dress. It turned out that the sleeves of my tuxedo were too short, that is, that the cuffs of the beautiful silk shirt of the same provenance stuck out too far. Besides, the belt was peeking out from underneath the vest when I stood up straight. So Amalia Osipovna quickly had, first of all, to make me those, you know, armbands, out of elastic and Zenzinov had to give me his suspenders. . . . When all of that had been sorted, I looked very smart.

He goes on to relate his dinner with Amalia and Zenzinov, his consumption

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of an eggnog, their arrival, by cab, at the “packed” hall on the Rue Las Cases, and the fatigue induced by having to smile at so many admirers. He loses track of their names, but he does record the gratifying presence of important writers and “thousands” of ladies—“in a word, everyone.” When the reading finally gets under way, he opens his briefcase—a “very nice” one borrowed from a friend—and spreads out his papers. After a sip of water from a handy carafe, he begins to recite. The acoustics are “magnificent,” and every poem is greeted with rapturous applause. The account continues for four pages.

There is little doubt that Mrs. Nabokov took a keen interest in her husband’s every triumph, toothache, and fried egg. But it is also possible to imagine that, in bleak moments, she tired of his endearments (“my little sunshine”), bridled at his pet names (“lumpikin”), and resented the ostentation of a love that can be hard to distinguish from self-infatuation (“It’s as if in your soul there is a prepared spot for every one of my thoughts”).

We will never know, however, what Véra felt. She systematically destroyed her own letters to Vladimir, and even blacked out the lines she had added on their postcards to his mother. At best, she was a fitful correspondent. Vladimir’s frustration with her epistolary reticence is a constant theme—“Pussykins, you write disgustingly rarely to me.” Boyd marvels at Nabokov’s tolerance “of what many in his position might have seen as a failure of . . . reciprocity.”

Failures in a marriage, however, tend to be reciprocal. “When I think about you, I get so happy and light,” Vladimir exults to Véra, in 1926, “and since I think about you always, I am always happy and light.” He surrenders to this trance of buoyancy at a moment when Véra, a newlywed, has been sent to a sanatorium—against her will, it seems—to recover from depression and weight loss. In response to a “sad little letter” in which she seems to have begged for release from her incarceration, he tells her, “Understand this, my love, none of us wants to see you till you’re completely well and rested. I beg you, my love, for my sake shrug off all that gloom. . . . Think what I must feel knowing things are bad for you.”

Nabokov’s uxorious complacency

reaches its low point in the spring of 1937, the “darkest and most painful” year of the marriage, as Boyd puts it. Vladimir’s sexual charisma was legendary, and Véra was aware of his womanizing before she married him, thanks, in part, to a list of some thirty paramours he had provided, on her father’s letterhead, early in their courtship. She had caught him on the rebound, four months after the end of his engagement to a rich beauty of seventeen. (The girl’s parents had become alarmed at Nabokov’s prospects and, evidently, at his morals; he had shared his diary with their daughter, who hurled it across the room.)

Earlier that year, Schiff tells us, Véra had received an anonymous letter, written in French but “patently from a Russian.” She was in Berlin with Dmitri while Vladimir was in Paris, romancing publishers, and the letter informed her that her husband was besotted with a blond divorcée named Irina Guadanini, a vivacious flirt from St. Petersburg who earned her living as a part-time dog groomer. Véra confronted her husband with the rumor, and he shrugged it off. “*I forbid you to be miserable*,” he tells her in March. “There’s no power in the world that could take away or spoil even an inch of this endless love.” (He has recently mentioned a rendezvous with Irina at La Coupole; he wants Véra to know that in the course of their meal he misplaced but recovered the top to his precious fountain pen.)

As spring approaches, the couple spar over vacation plans, she insisting on a Czech resort and he on a beach house in the South of France. “*You make me anxious and cross*,” he scolds—she is being intransigent. And a little later: “My dear love, all the Irinas in the world are powerless. . . . *You should not let yourself go like this*.” And then in April: “My darling, your muddle-headedness is absolutely killing me. What’s really going on?” What’s going on, we learn from Schiff, is that Nabokov is enjoying torrid sex with his worshipful mistress while lying to his wife about ending the affair. He suffers not a little shame, yet tells Irina he can’t live without her. He even hints that he will leave Véra—given time. And, in letters that might have made a fascinating appendix, he extolls his and Irina’s uncanny compatibility in suspiciously familiar prose. “For the more mortal

among us,” Schiff observes, “there is cold comfort in the idea that even Nabokov could not coax two entire vocabularies out of reckless passion.”

It is the work of the artist,” Nietzsche wrote, “that invents the man who created it. ‘Great men’ as they are venerated are subsequent pieces of minor fiction.” Biographers do well to heed this caution, and so do Véricas. It might have been the epigraph for “Pale Fire.”

Boyd calls Véra “an expert at blanket denial.” In the late nineteen-sixties, Andrew Field proposed to write Nabokov’s biography. Vladimir and Véra both welcomed the project, though they were wary of Field’s prying, and Boyd speculates that she destroyed her letters to protect their contents. When Véra read a manuscript of the book, in 1973, she objected to what she considered a lifeless and distorted portrait. “After close to 48 years of life together,” she told Field, “I can swear that I have never once heard [Nabokov] utter a cliché or a banality.”

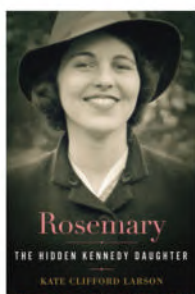
But how much did she deny to herself? In that regard, it is worth quoting a letter that Schiff found in the Nabokov archives. Véra wrote it, in 1959, to her older sister, Princess Hélène Massalsky. Lena, as she was called, had stayed in Berlin and barely survived the war. She left her husband, who then died. At some point, she converted to Catholicism. She had a son of twenty-one, Michaël, whom she had struggled to raise on her own. Véra was planning to visit them, but on one condition: “Does Michaël know that you are Jewish, and that consequently he is half-Jewish himself?” If he did not, she continued, “there would be no sense in my coming to see you, since for me no relationship would be possible unless based on complete truth and sincerity.”

At the end of this volume, you have to wonder what Véra’s qualms were as she disposed of her letters. She must have had some. The truth of her past would never be complete without them. Was it the act of a morbidly private woman refusing to expose herself—and thus, consciously or not, enshrining her mystique? Or an auto-da-fé that destroyed the evidence of wifely heresy? These questions reverberate in the echo chamber of “Letters to Véra.” “You are my mask,” Nabokov told her. ♦

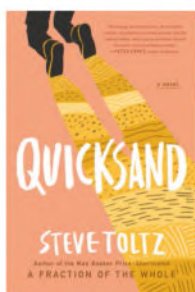
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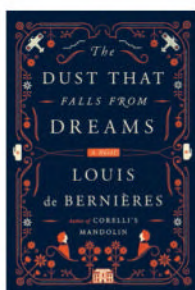
NOTORIOUS RBG, by Irin Carmon and Shana Knizhnik (*Dey Street*). It's possible that the Clinton Administration's most consequential decision was the nomination of Ruth Bader Ginsburg to the Supreme Court. It was certainly the most consequential for women and the law. The title of this light-as-air yet intelligent scrapbook-like homage refers to Biggie Smalls, but the book is reminiscent of Jay Z's memoir, "Decoded." It's not serious, exactly—legal scholars won't feel threatened—but those who admire Ginsburg and her lifelong commitment to feminism will find a judge worthy of admiration. We get sharply edited quotations from her rulings and dissents, handwritten annotations to her pronouncements, and a moving portrait of her long and loving marriage. There is also the occasional recipe and needlepoint portrait, as well as an impressive workout routine.



ROSEMARY, by Kate Clifford Larson (*Houghton Mifflin Harcourt*). In 1941, at the age of twenty-three, Rosemary Kennedy, the oldest daughter of Joseph and Rose Kennedy, underwent a botched lobotomy that left her incapacitated until her death, in 2005. Drawing on newly discovered documents, Larson argues that Rosemary's father arranged the surgery believing that her intellectual limitations were a "menacing disgrace to the Kennedys' political, financial, and social aspirations." The precise nature of her limitations before the operation remains a mystery. Letters written during her teens, though simple and full of misspellings, communicate a range of ideas and emotions. At sixteen, she wrote to her father, "I would do anything to make you so happy."



QUICKSAND, by Steve Toltz (*Simon & Schuster*). This exuberant novel tells the story of Aldo, a spectacularly unlucky paraplegic murder suspect and brothel enthusiast, as seen through the eyes of his friend, a policeman who hopes to turn his story into a novel. Both Aldo and the novel operate on a principle of extreme digression; his trial testimony includes long stretches of free verse and a transcript of his conversation with the voice of a divine being. Aldo is a pessimistic aphorism machine, never more so than when writing his frequent suicide notes: "I've lived my entire life as if in a theater, always gazing glumly at the exit." Toltz's ambition is impressive, but the novel's jocular and metafictional flourishes are ultimately exhausting.



THE DUST THAT FALLS FROM DREAMS, by Louis de Bernières (*Pantheon*). In this sprawling historical novel, three British families contend with the tumult of the First World War. The central characters are four well-to-do sisters, each of whom figures out her own way to contribute to the war effort. Around them de Bernières arranges hundreds of short chapters from a wide range of perspectives, including soldiers' letters describing the miseries of the front. The kaleidoscopic technique can be distracting, but the book is nonetheless moving, especially at the Armistice, when the characters are left to contend with the wreckage, wondering, as one veteran does, "What are we supposed to do with so much life unexpectedly left over?"

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THE THEATRE

IN TRANSIT

Taylor Mac's changing family.

BY HILTON ALS



Hormones on parade: Daniel Oreskes and Kristine Nielsen in "Hir."

It's weird to realize that the great playwrights who came of age in New York in the nineteen-sixties and seventies—artists ranging from John Jesurun to Wallace Shawn, Sam Shepard, Mac Wellman, María Irene Fornés, David Rabe, Adrienne Kennedy, and Rosalyn Drexler—are now the elder statespeople of the American theatre. Weird because one never thinks of these writers as “old”; what made them stand out from the beginning was their youthful pushiness and zeal when it came to putting their unique visions of society onstage. Their early scripts continue to work our nerves because they're meant to: the chaos, bitterness, and crackling moments of absurdity that defined their times are inseparable from the stories they needed to tell. Civil rights, the Vietnam War, and the fight for gay rights and women's rights no doubt contributed to the sense of urgency. The violence and strife one finds in Shepard's and Rabe's dialogues about the post-Eisenhower-era family, for instance, call into question not only the idea of home but its presumed head: the great white father.

That father—the custodian of cruelties—is central to Taylor Mac's “Hir” (sensitively directed by Nigel Smith, at Playwrights Horizons), a play that harks back to a time when politically driven narratives were the rule, not the exception. Actually, Arnold Connor, a fifty-something father (played, with beautiful timing, by Daniel Oreskes), predates Rabe's and Shepard's weak blowhard dads. He's a sadder, muted brother to Edward Albee's Daddy in “The American Dream” (1961). But Arnold doesn't wear suits or cardigans—the kind of “Father Knows Best” costuming that would tip us off to his role and what to expect from it. Instead, when we first meet Arnold, he is dressed in a loud, frilly nightgown, his face covered with gobs of makeup, like a third-rate clown's. Standing unsteadily amid piles of household debris—clothes, appliances, plastic containers, a makeshift bed—Arnold hardly knows how or when to move without instructions from his wife, Paige (Kristine Nielsen).

These she provides with condescending relish from the start of the strange

spectacle, which the couple's son Isaac (Cameron Scoggins), a marine who hasn't spoken to his family for a year, finds as bewildering as we do. Isaac has been discharged from the military with post-traumatic stress disorder (though he never admits it). When on duty, “I,” as he's sometimes called by his family, works in “mortuary affairs”: “I pick up guts. Exploded guts.” As death's janitor, Isaac is always on the lookout for slime, the real and metaphysical messes that testify to the fact that life can change or end in an instant. Has his life with his parents—his life as a son—ended, too? His home is no longer recognizable to him. Paige tries to mother Isaac, but he doesn't understand her language, let alone her intentions. He knows that Arnold had a stroke, but why is she feeding him estrogen? Tranquillizers?

ISAAC: The doctors prescribed him estrogen?

PAIGE: Oh, God, no. The doctors prescribed him poodle-diddle-wing-wang. The estrogen's extra. . . . It keeps him docile.

ISAAC: He's gonna grow tits.

PAIGE: Grammar!

ISAAC: He's *going* to grow tits.

PAIGE: Language!

ISAAC: He's going to grow breasts. . . . You can't give him, Dad . . . men estrogen.

Oh, yes, you can. Arnold's on this odd cocktail because he's violent. Paige explains that when Isaac left home (he enlisted because he couldn't afford college or find work) Arnold lost part of his audience. Other things were taken away from him, too: his job at Roto-Rooter, for example. The company got tired of fielding calls about this angry racist plumber guy and replaced him with a young Asian-American woman. With his power in the world dwindling, Arnold became more of a dick at home. “He doubled down on Max and me,” Paige says, referring to their teen-age son (energetically played by Tom Phelan), who used to be their daughter, Maxine. “Three times I had to take Max to the emergency room.”

But Maxine didn't let Arnold's rages deter her from buying testosterone online so that she could become the boy she felt herself to be. And now Arnold's meds—including the estrogen that Paige mixes into his “shaky-shake”—have made him docile in the way that Paige likely was for most of her marriage. She and the world are different

now. "It used to be you could be a mediocre straight white man and be guaranteed a certain amount of success," she says. "But now . . . the darkies have come. And the spics. And the queers. And those backstabbing bitches waiting to get at the mediocre straight white man the minute it becomes known he is barely lifting a finger but thinking he is lifting the world."

Change, physical and otherwise, is at the center of "Hir." And the most extreme evidence of that change is Max. Paige's delighted descriptions of how the "mones" are affecting Max's body make Isaac retch, as does her wish to sell the family home and move on. Isaac is the straight man in his family's painful comedy. (He is also the artistic progeny of David Rabe's damaged Vietnam veterans.) He can't deal with having the patriarchal rug pulled out from under him. Arnold was, to some extent, his ideal of manhood, and what happens when our ideals are rendered impotent? Paige, on the other hand, is enthralled by the transformations around her. Freed from her traditional role—if Arnold wants a neat cupboard, he can tidy it up himself—she has become, by the end of the first act, a warrior for change. She refuses to show Arnold the compassion that Isaac feels he deserves; she will not, she says emphatically, "rewrite his history with pity." Before the tables turned, Arnold wouldn't have, either.

In recent years, a number of young playwrights—Branden Jacobs-Jenkins and Young Jean Lee come to mind—have taken their critical shears to the white-male-dominated family living room that was so prevalent onstage and onscreen when they were growing up. By chopping apart that convention, Mac, like Lee and Jacobs-Jenkins, isn't so much remaking the world in his own image as he is addressing subjects that remain, remarkably, underplayed on the American stage: what bodies mean and what stories women are allowed to tell or perform. "Hir" has a lot of ideas—necessary ideas, especially when it comes to flinging open closets in the "trans" world—which spill over the edges of the play, but I wouldn't take much out in order to make the show dramatically tighter or easier to absorb. The rudeness of its form is part of its power:

you can't build a clearer future without making a mess of the past.

The show is saved from potential proselytizing by Mac's awareness that his arguments have to grow in complexity in order for his characters to grow, and by Nielsen's performance. She gives it everything she's got. All her years of good and shitty show-biz experience have added up to this: playing a woman who, for much of her adult life, has been controlled by men—which is true of most actresses, too. It would have been easy for Mac to present Paige as a vengeful bitch goddess, devouring everything in her path and making the show all about her and the heights her language takes her to. But he shies away from using Paige as his heteronormative mouthpiece, as it were; she is not the Blanche to his Tennessee Williams. Instead, Mac shows us how desire can take many forms, including the urge to speak. Paige is high on her own long-stifled voice, whether or not her insights have a lasting effect on anything.

The second act gives Mac a chance to explore just how awful and ingrained our—and Isaac's—need for a daddy is. Isaac will have nothing to do with Paige's plan to sell the house. He sets to work cleaning, gets his father off the meds, and tries to return his family to some semblance of order, normalcy. In the Connor family, as in most families, that means keeping Dad front and center, the better to define other roles, like those of the subjugated son and the worshipful daughter. And since Max, who is Paige's transcendent hope, has been both, it cuts her to the heart to see him using his maleness as an excuse to be obnoxious and demanding, just like Dad. It's a brilliant narrative stroke on Mac's part: does Max want to be male because he *feels* male or because he identifies with Arnold? And does Paige love Max because she perceives him to be the kind of man she could actually love, a man who has also been a woman? The ideas and questions proliferate and spawn others as the curtain comes down on Nielsen's pained and profound performance, on Mac's script, and on Smith's direction, a trinity of beautifully youthful, experimental efforts that remind one of the freshness of the art they were all born out of so long ago. ♦



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CITY SCENES

A Martin Wong retrospective.

BY PETER SCHJELDAHL

*A connoisseur of urban dilapidation: Wong's "My Secret World, 1978-1981" (1984).*

Like a firecracker with a very long fuse, the reputation of the Chinese-American painter and bohemian's bohemian Martin Wong has sizzled inconspicuously since before his death, in 1999, from AIDS-related causes, at the age of fifty-three. It should now go bang, thanks to a terrific retrospective of Wong's paintings at the Bronx Museum of the Arts, including his brick-by-brick slum cityscapes; witty messages in sign language, rendered by fat fingers that emerge from cufflinked white cuffs; gnomish symbolologies of star constellations and eight balls; erotic fantasies of hunky firemen and seraphic prison inmates; and celebrations of his close friend Miguel Piñero, the late poet, activist, erstwhile armed robber, and gifted author of the classic prison play "Short Eyes" (1974). All are drawn or painted in a commanding style that bridges exacting realism and poetic vision. The best pictures lock your gaze and take your mind for a fine ride.

Wong wasn't ahead of his time, ex-

actly. He was in the thick of it, as a collaborator with gender-bending performance groups in his home town of San Francisco, in the nineteen-seventies, and then as a fixture on the demotic art scene of the Lower East Side, in the eighties. But his associations camouflaged a uniqueness that has been slow to stand out. Today, he seems a quintessential figure of maverick sensibility and disciplined artistry, on whom little of an era of cultural tumult was lost. His sophistication sneaks up behind dandyish masks of mock naïveté, then won't let go. The show comes at a moment when the idea of bohemia feels up for reevaluation, as growing numbers of the educated and discontented young gather in cities to endure economic hardships while leading experimental lives.

Wong was tall, thin, and electrically energetic; he commonly sported a drooping mustache and cowboy duds. As a child in San Francisco, he lived near North Beach and Chinatown. His father died when Wong was three, and

his devoted mother, Florence, and his beloved stepfather both worked in engineering for the Bechtel Corporation. Encouraged by Florence, who dabbled in painting, Martin was avid for art from childhood. The Bronx Museum show includes sombre, astonishingly adept self-portraits that Wong made, tracking his growth and his change, until shortly after he graduated from public high school, in 1964. He devoured art history, acquiring an expertise that served him in the eighties, when he worked as a freelance broker for collectors in sales of Asian decorative items and, on one occasion, of a drawing by Mondrian.

After graduating with a degree in ceramics from Humboldt State University, he won a prize, in 1970, in a competitive ceramics exhibition at the de Young museum, in San Francisco. A year later, he was barred from the show, for having used glitter in his work, and abandoned ceramics for painting. For a time, he subsisted as the Human Instamatic, a lightning-fast street portraitist. Between travels in Europe and Asia, he created posters for the Cockettes, a riotously campy Haight-Ashbury performance troupe, and built spectacular sets for its mystically themed offshoot, the Angels of Light.

In 1978, he moved to New York and lived in the formerly grand Meyer's Hotel, at the South Street Seaport, where, as he told it, he worked as a night porter and got free lodging. (Wong's stories were sometimes more good than true.) His hypnotically meticulous paintings "Voices" (1981) and "My Secret World, 1978-1981" (1984), inspired by van Gogh's painting of his bedroom in Arles, afford views of his tidy room. Works seen hanging on the walls include his sign-language translations of such tabloid headlines as "PSYCHIATRISTS TESTIFY: DEMON DOGS DRIVE MAN TO MURDER," a reference to the serial killer Son of Sam. His reading matter includes books on science, magic, and sports, and fiction by Raymond Chandler and John Cheever.

A few years later, Wong took an apartment on Ridge Street, on the still drug-ridden, dangerous Lower East Side. He began showing his work downtown, and supported himself by

working at the gift shop of the Metropolitan Museum—in 1984, the museum acquired what is perhaps his masterpiece, “Attorney Street (Handball Court with Autobiographical Poem by Piñero)” (1982–84), which pictures a graffiti-emblazoned wall overlaid with a text in sign language. Wong became a familiar of graffiti artists around the city, gradually assembling a vast collection of their works, which he donated to the Museum of the City of New York in 1994. He also frequented the Nuyorican Poets Cafe, which was co-founded by Piñero, whom he met at the guerrilla art space ABC No Rio. Though hardly secretive about his sexuality, Wong sometimes resented being publicized as gay, perhaps to spare his mother’s feelings. It seems a sign more of improvising spirit than of pretense that, for some years in the eighties, he lived with a female dancer; they said that they were married.

Though Wong befriended many junkies, he largely abstained from drugs, according to his friend and first dealer, Barry Blinderman. One pharmaceutical mishap occurred in 1984, shortly before Wong’s solo debut at Blinderman’s Semaphore Gallery. Two days after taking a heavy dose of LSD, he became obsessed with a message encountered in the windows of failing stores: “Everything Must Go.” He hauled more than a dozen canvases down to the street and offered them free to passersby. A friend managed to retrieve most of them. Blinderman posted reward flyers that led to the recovery of two others. On the day of the giveaways, Wong was picked up by the police after throwing his wallet and his keys off the Brooklyn Bridge and appearing likely to follow them. Blinderman found him in a psychiatric ward at Bellevue, giving impromptu drawing lessons. A hospital intern told Blinderman that Wong was plainly delusional, having boasted that he had a work in the collection of the Metropolitan Museum.

Wong was given to romantic fetishes. Expressing one of them, in 1988, he wrote on a painting of a silhouetted fireman, “I really like the way firemen smell when they get off work. It’s like hickory smoked rubber and B.O.” A touchstone work, “Big Heat” (1988),

owned by the Whitney Museum, finds two firemen in full gear kissing beneath towering walls composed of fool-the-eye-precise discolored and scorched brick. Wong was a connoisseur of urban dilapidation, rendering sad tenements and grim gated storefronts in resonant reddish browns, umber, and dirty whites and grays. The works, some of which are in frames adorned with patterns of brick or wood grain, often have an air of remarkably intact artifacts fished from ruins. Observation and fantasy meld in “Sweet ’Enuff” (1987): skateboarders soar over razor-wire fences amid looming buildings.

Wong’s style, at its best, maintains a powerful tension between opposing tugs toward illustration and decoration. He faltered for a spell in the early nineties, by succumbing to both extremes at once. Gaudy, folk-artish scenes of Chinatown in New York and San Francisco sabotage his earthy palette with florid infusions of red and ultramarine. The cause was broadly political: a temporary turn among minority-group avant-gardists reacting to art-world biases away from self-invention and toward assertions of collective identity. The show ends with small paintings that adumbrate a return to Wong’s original promise: dramatic black-and-white still-lives of succulents and cacti from his mother’s garden, made at her house the year before he died.

The show, crisply curated by Antonio Sergio Bessa and Yasmin Ramírez, affords a signal occasion to visit the Bronx Museum, a compact and handsome edifice on the Grand Concourse, near Yankee Stadium. The site points up Wong’s collaborative relations, in the eighties, with graffiti crews and the exhibition space Fashion Moda in the then all but apocalyptically beleaguered South Bronx. With the exception of the odd bankable figure—Jean-Michel Basquiat, Keith Haring—the New York art world has never got its institutional minds and commercial appetites around the abundance of renegade artistic phenomena from an epoch that feels ever more significant. The stage seems set for the return to influence of neglected cultural insurgents who cannot but include Martin Wong. ♦

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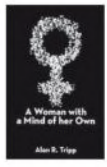


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HUMAN BONDAGE

"Spectre."

BY ANTHONY LANE

When did you last hand over your white dinner jacket to be pressed? To be precise, when did you last hand it over *on a train*, to an obliging steward? That is not, as far as I am aware, a service that is regularly available on the 5:53 from Grand Central to Poughkeepsie. If you are James Bond (Daniel Craig), however, such niceties come with the

forming it into a strange amalgam of the savage and the fantastical: a thug let loose in a daydream. Casting Craig, in "Casino Royale," was a de-facto proclamation that the officer class need no longer apply for the job. Craig resembles a staff sergeant who's left the army, nicked and scarred, and found himself frustrated, as veterans often are, by the

Bond films, even at their most nonsensical, tend to graze against political realities. Back in 1974, in "The Man with the Golden Gun," Bond remarked to M that "the energy crisis is still with us," which suggested that he had at least glanced at a newspaper during the previous year. Likewise, a thin gloss of topicality has been added to the story line of "Spectre." M (Ralph Fiennes) is under siege from a new superior, C (Andrew Scott), who plans to merge MI5 and MI6, and to make common cause with eight other nations in a global intelligence network. (Scott is known to millions of TV viewers, having played Moriarty in "Sherlock"—too much baggage, I think. Also, he has a mean stare; we need someone more affable, to keep us guessing.) Worse still, 00-agents are to be scrapped in favor of digital surveillance. From now on, one presumes, Bond must perch in a cubicle and browse glumly through the Snapchats of major villains rather than do the decent thing and shoot them in the head.

The reason for 007's presence in Mexico is a tipoff from M's late predecessor—death being no excuse, in spy stories, for ceasing to contribute to the plot. Bond leaves the city in (a) a state of structural chaos, (b) a helicopter, having wisely discarded the pilot in midair, and (c) possession of a super-special ring. As any Baggins could tell him, the ring will lead him on a lengthy quest, although his destination will be not Mordor but Spectre. This excellent organization, whose name stands for Special Executive for Counter-intelligence, Terrorism, Revenge, and Extortion, is pretty much like the U.N., but with fewer vaccination programs. It was devised by Ian Fleming and made its first screen appearance in "Dr. No," in 1962. For decades, however, Spectre has been on sabbatical. Now it is back, its tentacular reach indicated by the opening credits, in which an octopus tries to molest a loaded firearm.

For scholars of Bond, all this may be too much to take in. None is more fanatical than Sam Mendes, who directed "Skyfall" (2012) and now "Spectre," and who loves to rummage in the lore of 007 and to summon up remembrance of things past. The things include an Aston Martin with an ejector seat, as in "Goldfinger"; a boat emerging from MI6



Monica Bellucci and Daniel Craig in the new Bond film, directed by Sam Mendes.

territory. His latest adventure, "Spectre," finds him travelling on a Moroccan rail-road, from Tangier to the dusty middle of nowhere, in the company of Dr. Madeleine Swann (Léa Seydoux), his new best friend. They meet for dinner in the restaurant car, where she rolls up sheathed in silver satin and orders a vodka Martini, specifying that she wants it dirty. They never get to eat, being rudely interrupted by the mountainous Mr. Hinx (Dave Bautista), who tosses Bond around like a sack of potatoes. Once the battle is over, Dr. Swann inquires, "What do we do now?" To which the obvious answer is: have sex.

Such is the average day of 007. This is the fourth occasion on which Craig has strapped himself into the role, trans-

soft edges and the moral dithering of civilian life. Bond has always boozed, but never has the drink seemed less of a pleasure and more of an urgent fix. As for that tux, Craig looks deeply uncomfortable in it, like someone who has been dragged to a wedding against his will, and the most noticeable feature of the Tom Ford suits, in "Spectre," is the compulsive extent to which Bond keeps them buttoned up. That's cool enough at the start, as he strolls along a lofty ledge in Mexico City, toting an assassin's rifle, but by the time he attends a funeral, in Rome, boxed into a short, dark, and double-breasted coat, you wonder what he's hiding, apart from a gun and an armored heart, and why the thought of hanging loose should fill him with such alarm.

headquarters onto the Thames, as in “The World Is Not Enough”; and a lunatic’s lair inside a crater, as in “You Only Live Twice.” Then there is Oberhauser (Christoph Waltz), who squats at the heart of Spectre, cocooned in shadow. “Welcome, James,” he says to our hero, adding, in a wounded tone, “What took you so long?” In broad daylight, he sports a collarless jacket: the school uniform of megalomania, in the Bondian wardrobe. All roads lead to Oberhauser. He is the baddies’ baddie, and we spot images of his forerunners, from the previous three films, on a Moroccan wall. But you can’t help asking, Who will trump *him* in future installments? Must he swear allegiance, in turn? Might we finally arrive at the heart’s heart, to find a flustered little crank behind a curtain, meekly admitting that he’s not a bad man at all, just a very bad wizard?

There is, in short, something hollowed out in “Spectre”—a hint of something not quite there, as wraithlike as the title suggests. The movie is long, verging on two and a half hours, yet determined not to drag. We find ourselves atop an Austrian peak, in a clinic whose outer walls shine like mirrors, where Bond is quizzed by Dr. Swann (“Do you consider your employment to be psychologically stressful?”), and from which he departs in haste, using a twin-prop plane as a sled. Next stop is Tangier, with no mention of the intervening trip. So remorselessly does 007 hare between countries and climates that half the audience will find the film too episodic for its own good—one damned thrill after another, like loosely strung pearls. I re-

gard it as a ravishing exercise in near-despair, with Bond beset by the suspicion that, were he to desist, both his character and his cause would be unmasked as a void. Killing is his living, and his proof of life.

Looming over “Spectre” is “Skyfall,” which felt as if it could, and maybe should, have marked the end of Bond. Half a century had passed since the franchise began; Judi Dench’s M made her exit; and the action teemed with tropes of noble decline—quotations from Tennyson, the British bulldog reduced to a china toy, and a sad shot of 007 and Q gazing at Turner’s “The Fighting Temeraire,” in which an old ship is towed away at sunset. When Dean Acheson declared, on December 5, 1962, that “Great Britain has lost an Empire and not yet found a role,” he was in fact wrong by two months. “Dr. No” had come out on October 5th, thus initiating a role—one immortal man, to be enshrined by many actors—that would set off a series of idle jaunts, rife with post-imperial delusion. “Skyfall” bid them goodbye, and, as a bonus, encouraged 007 to mollify the trauma of his own origins. “I always hated this place,” he said, before blowing up his childhood home.

How do you follow that? Not by hiring Sam Smith to sing your theme song, that’s for sure. His keening caterwaul sounds as if he had flicked the ejector switch but forgotten to undo his seat belt. On the other hand, “Spectre” is a banquet for the eyes. Mendes is the first director to have posed a basic question: Is there any reason that Bond films should not be beautiful? By cus-

tom, they have been stacked with beautiful people, and tricked out with beautiful objects, but the outcome was often unlovely to behold, with a gaucheness that ran far deeper than Roger Moore’s safari suit. Hence the crystalline shock of “Skyfall,” and now, less sharply etched, the elegant haze of “Spectre,” photographed by Hoyte Van Hoytema, who conjures a smoky brownness in the Mexican air and elsewhere. It is as though 007 had just laid down a fine cigar, to settle his nerves before the mayhem began.

I can see no point in going to a Bond film unless there is a corner of your soul that is still eleven years old. Anyone who has tamped down that youthful yen for excitement should stay away. But the craving for grownup glamour, however foolish, demands equal satisfaction, and “Spectre,” in providing it, acquires a throb of mystery that cannot be explained by mere plot. Hence the thrum of a Roman car chase, along the brink of the Tiber and up into St. Peter’s Square; and, preceding it, the sight of a sumptuous and griefless widow (Monica Bellucci), framed by white marble columns and veiled in black. Bond comes to her by night, with perils prowling her villa like cats, and you long to know—a rarity, in the rapacious history of 007—who is seducing whom. She says that, if he doesn’t leave now, they will perish together. “I can think of worse ways to go,” he replies. Me, too. I nearly died. ♦

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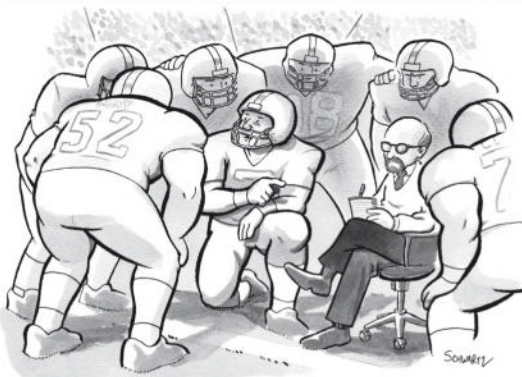
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CARTOON CAPTION CONTEST

Each week, we provide a cartoon in need of a caption. You, the reader, submit a caption, we choose three finalists, and you vote for your favorite. Caption submissions for this week's cartoon, by Jack Ziegler, must be received by Sunday, November 15th. The finalists in the November 2nd contest appear below. We will announce the winner, and the finalists in this week's contest, in the November 30th issue. The winner receives a signed print of the cartoon. Any resident of the United States, Canada (except Quebec), Australia, the United Kingdom, or the Republic of Ireland age eighteen or over can enter or vote. To do so, and to read the complete rules, visit contest.newyorker.com.

THE WINNING CAPTION



*"No, just hear him out. Maybe we
are being too defensive."*
Bill Evenson, St. Paul, Minn.



THE FINALISTS

"It's a classic 1980 Sunbeam."
Lewis Shilane, Joplin, Mo.

"I should have chosen door number 2."
Tony Adamshick, Toledo, Ohio

"It's unplugged. I'm not an idiot."
Lawrence Wood, Chicago, Ill.

THIS WEEK'S CONTEST



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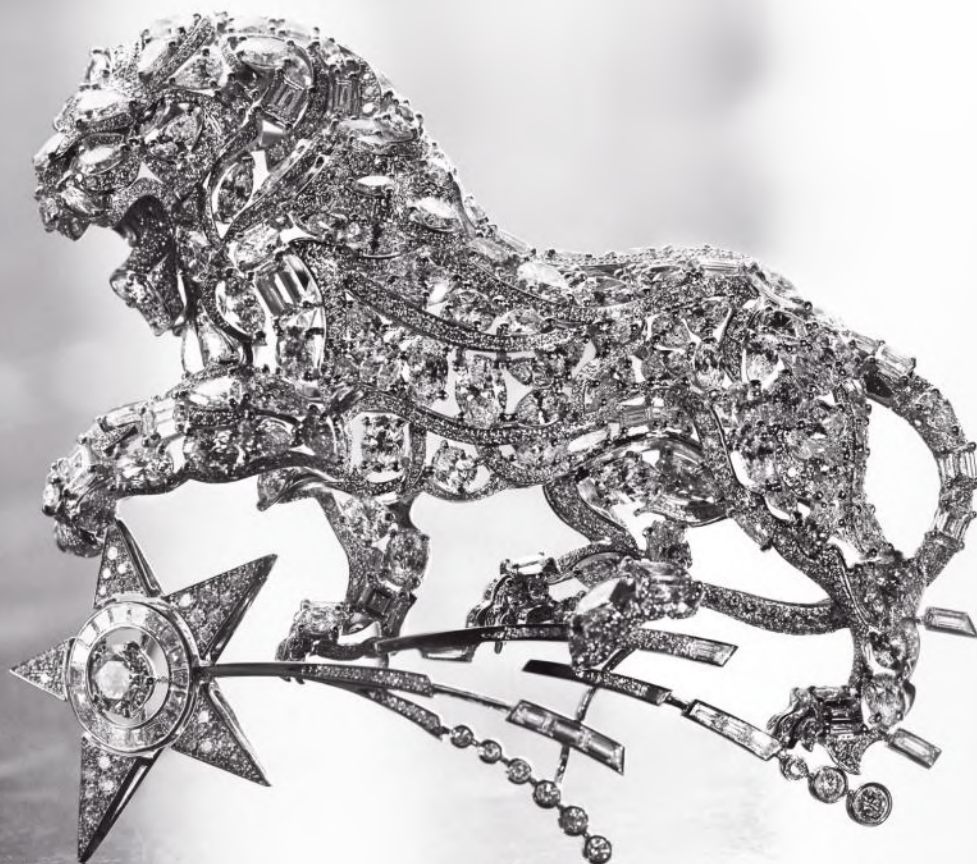


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